

SONY

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KV-2782A

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MODEL

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SERVICE MANUAL

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# KV-27VX1P

RM-646/SS-X4(PX)

## SERVICE MANUAL

PX Model

Chassis No. SCC-A57A-A



**VX CHASSIS**

December, 1986

### SPECIFICATIONS

Note: The service manuals for RM-646 and SS-X4 (PX) have been issued separately.

Television standard	CCIR system B/G and H	CCIR system I	EIA system M
Color system	European PAL	UK PAL	American NTSC
Channel coverage			
Low VHF band	VHF: E2-E4 Cable TV: S1-S3, M1	—	VHF: A2-A6, J1-J3
High VHF band	VHF: E5-E12 Cable TV: M2-M10, U11-U20	—	VHF: A7-A13, J4-J12 Cable TV: A-8 to W
UHF	E21-E68	B21-B68	A14-A78, J13-J62

#### Picture tube

KV-27VX1P
27-inch (approx. 68 cm) Trinitron tube (approx. 64 cm picture measured diagonally) 114-degree deflection

#### Output

#### MONITOR OUT

VIDEO:  
BNC connector, 1 Vp-p, 75 ohm  
AUDIO:  
phono jack, -5 dBs, low impedance

Power requirements 110-240 V AC, 50/60 Hz

KV-27VX1P	
Power consumption	165 W
Dimensions	636 x 563 x 471.5 mm (w/h/d) (250 1/2 x 22 1/4 x 185 3/4 inches)
Weight	42 kg (99 lb 4 oz)

#### Accessories supplied

Speakers (1 pair)  
Remote Commander RM-646  
with 2 IEC designation R6  
batteries (1)  
UHF/VHF mixer EAC-53 (1)  
Power cord plug adaptor (1)  
BNC connector (1)

Design and specifications are subject to change without notice.

#### Peak music power output

140 W

#### Inputs

VIDEO-1, -2, -3  
VIDEO:  
BNC connector, 1 Vp-p, 75 ohm  
AUDIO:  
phono jack, -5 dBs, high impedance



**TRINITRON® COLOR TV**  
**SONY®**

**CTV**

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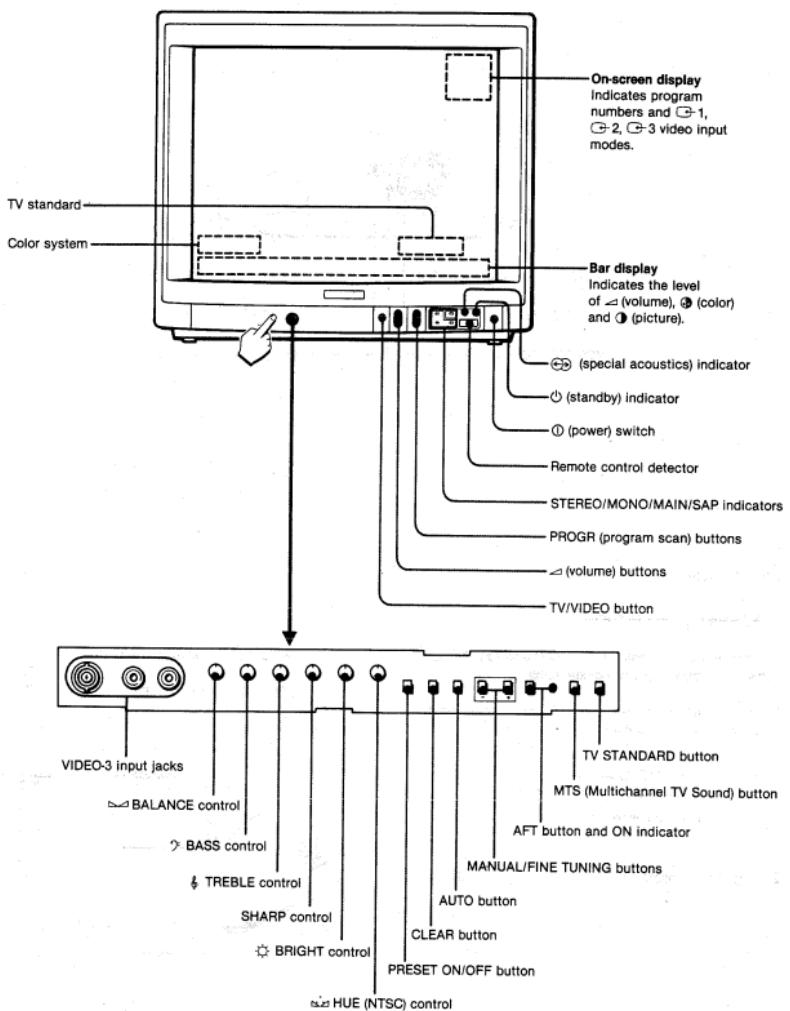
**SAFETY-RELATED COMPONENT WARNING !!**

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

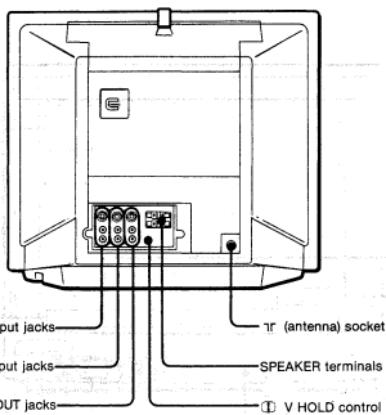
## SECTION 1 OUTLINE

### 1-1. LOCATION OF CONTROLS

Front



**Rear**

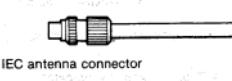


## 1-2. SET-UP

### ANTENNA CONNECTION

To connect a VHF antenna or a combination VHF/UHF antenna—round 75-ohm coaxial cable

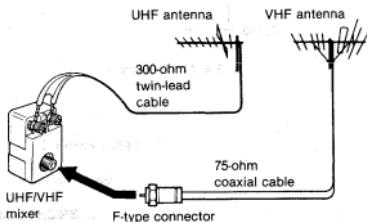
- 1 Attach the antenna end to an IEC antenna connector (commercially available).



- 2 Plug the connector into the IR (antenna) socket.

To connect both VHF and UHF antennas

- 1 Attach the antenna ends to the supplied UHF/VHF mixer.



- 2 Plug the mixer into the IR (antenna) socket.

## SECTION 2

### CIRCUIT ADJUSTMENTS

#### 2.1. SAFETY RELATED ADJUSTMENTS

##### R834 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENT

The following adjustment should always be performed when replacing the following components (marked with **■** on the schematic diagram).

C825, C831, C832, C833, C834, C835, C836, C837, C838, C857, C858, R506, R507, R818, R831, R832, R834, R835, R836, R837, R838, R839, R840, R841, R842, R843, R857, R858, R859, D831, D832, Q831, Q832, Q833, Q834, IC501.

##### 1. Preparation before confirmation.

- Turn POWER switch ON, and receive dot signals and set the PICTURE and BRIGHTNESS controls to minimum.
- Confirm that the voltage of the protector terminal of H.V.R is 15.50 ± 50 V dc when the set is operating normally with 120VAC supply.

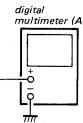
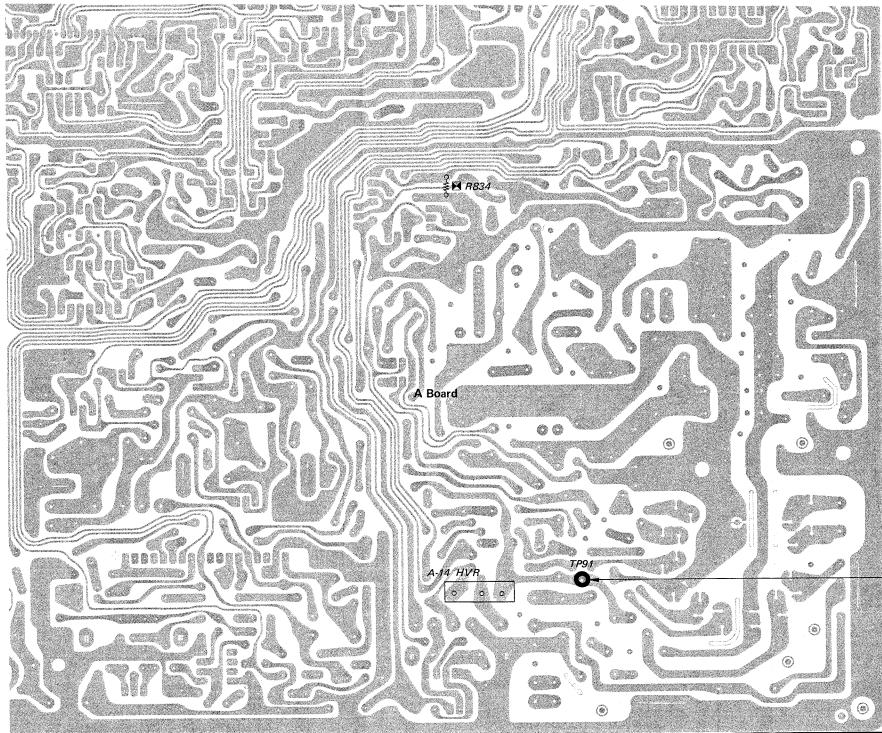
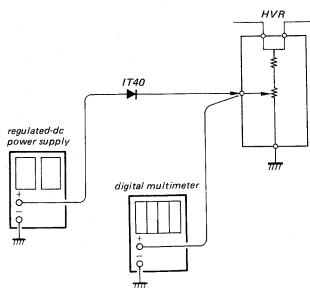
##### 2. Hold-down operation confirmation.

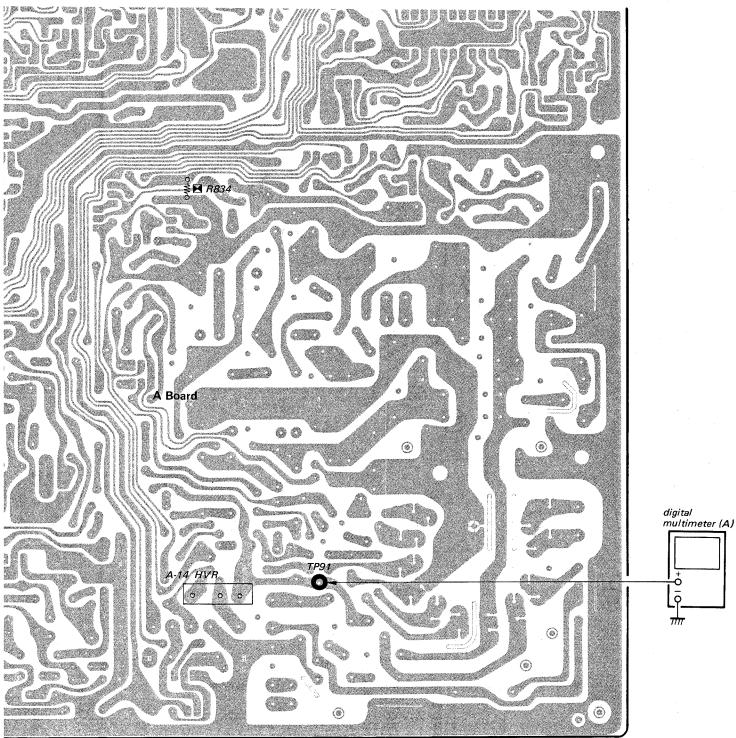
- Turn POWER switch ON, and receive entirely white signals and adjust IABL current to 1650 ± 30  $\mu$ A with PICTURE and BRIGHTNESS etc. controls.
- Apply DC voltage of over 14.80 V gradually to the protector terminal of H.V.R via IT40 from the DC stabilized POWER source. Confirm that the minimum voltage is less than 14.80 V whereby the raster disappears during operation of hold-down circuit.

Note: When the hold-down circuit starts operating switch OFF the POWER of the set immediately.

- Turn POWER switch ON, and receive dot signals and adjust IABL current to 220 ± 50  $\mu$ A with PICTURE and BRIGHTNESS etc. controls.
- Apply DC voltage of over 16.00 V gradually to the protector terminal of H.V.R via IT40 from the DC stabilized POWER source. Confirm that the minimum voltage is less than 16.00 V whereby the raster disappears during operation of hold-down circuit.

Note: When the hold-down circuit starts operating switch OFF the POWER of the set immediately.



+B MAX ADJUSTMENT  R683

The following adjustment should always be performed when replacing the following components (marked with  on the schematic diagram).

R634, R654, R655, R665, R671, R683, RV601, D654, D655, IC501, IC502, IC561.

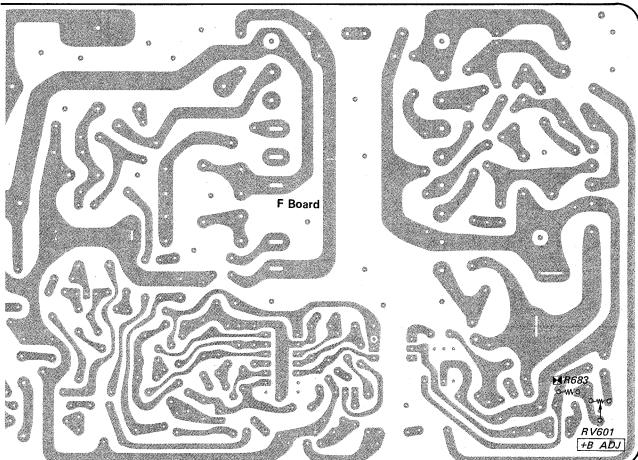
1. Feed in a dot pattern signals.
2. Set the controls as shown below.
- PICTURE control . . . . . minimum
- BRIGHTNESS control . . . . . minimum
3. Readjust the variable auto transformer for  $264 \pm 5.0$  V ac on the digital multimeter.
4. Adjust RV601 so that the voltage of digital multimeter (A) is minimum.
5. Confirm the ac voltage reading on the digital multimeter (A) is less than 141.0 V dc.
6. If the step 5 is not satisfied, select the value of R683 so that the specification is met.

## CONFIRMATION WHEN REPLACING H.V.R (HIGH VOLTAGE REGISTOR)

The following adjustment should always be performed with reference to whether an X-ray radiation control circuit is connected or not, when replacing H.V.R (High Voltage Register).

\* This check is to be performed when H.V.R only is replaced, and has no relation to the hold-down circuit adjustment for replacement of parts marked .

1. When the set is operation normally with 120VAC supply, confirm that the voltage of the protector terminal of H.V.R is  $15.50 \pm 2.50$  V dc.



### SECTION 3 EXPLODED VIEWS

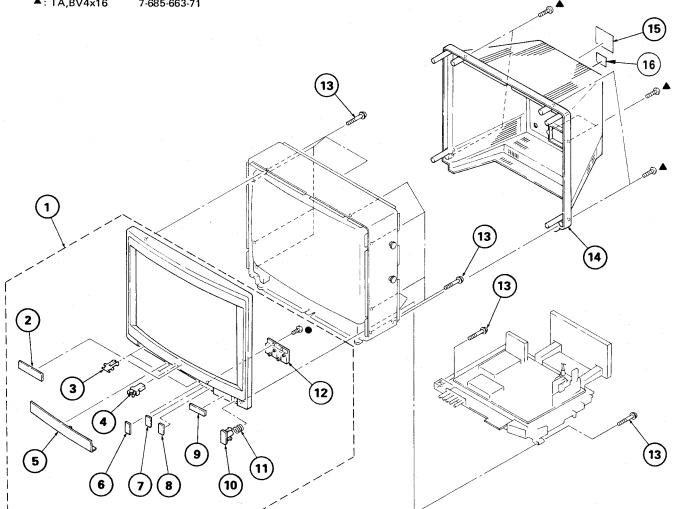
NOTE:  
 • Items with no part number and no description are not stocked because they are seldom required for routine service.  
 • The construction parts of an assembled part are indicated with a collation number in the remark column.

• Items marked with \* are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark are critical for safety. Replace only with part number specified.

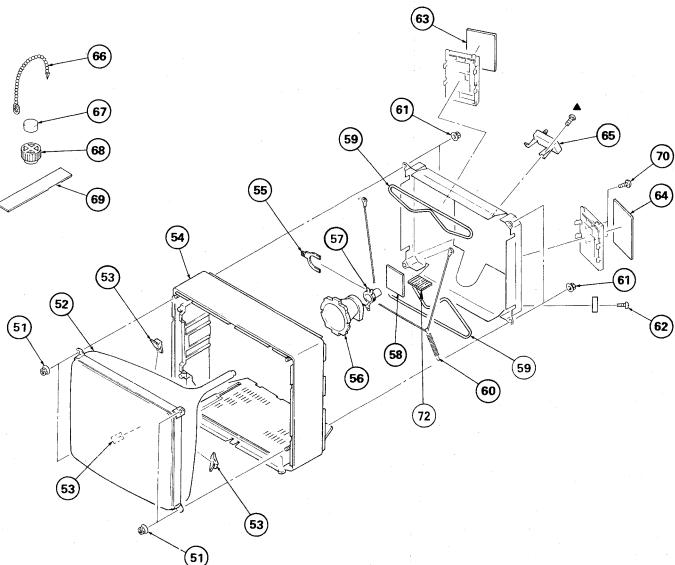
#### 3-1. BEZEL

● : TA,BV3x12 7-685-648-19  
 ▲ : TA,BV4x16 7-685-663-71



#### 3-2. CRT

▲ : TA,BV4x16



No.	Part No.	Description	Remark
1	X-4302-104-1	BEZEL ASSY	
2	*4-374-115-01	EMBLEM, SONY	
3	3-662-365-00	SHAFT (S), DOOR	
4	4-374-714-01	CATCH, PUSH	
5	4-382-107-01	BUTTON, UP/VIDEO	
6	4-382-108-01	BUTTON, UP/VIDEO	
7	4-382-107-01	BUTTON, UP/DOWN	
8	4-382-107-11	BUTTON, UP/DOWN	

No.	Part No.	Description	Remark
9	4-392-128-01	WINDOW (B)	
10	4-382-106-01	BUTTON, POWER	
11	*3-660-863-00	SPRING, COMPRESSION	
12	4-378-278-01	BUTTON (B), MDLT	
13	4-382-107-01	BUTTON, UP/VIDEO	
14	X-4382-103-1	COVER ASSY, REAR	
15	*4-382-126-01	LABEL, MODEL NUMBER (J)	
16	4-010-023-05	LABEL, X-RAY	

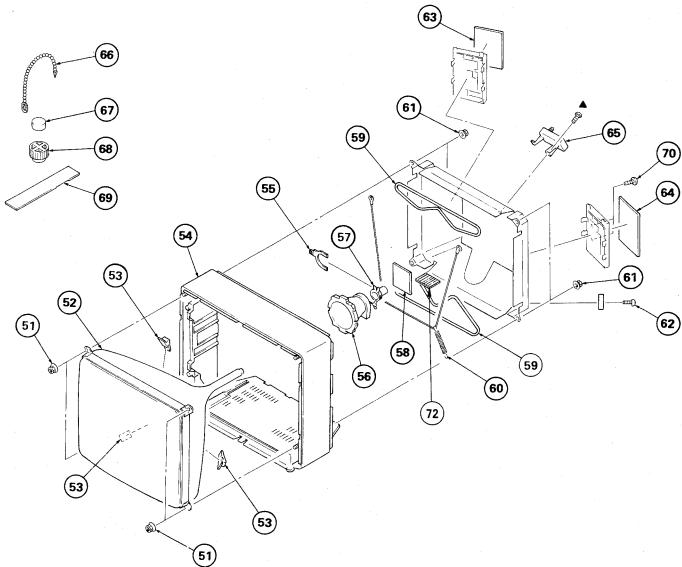
No.	Part No.	Description
51	X-4374-104-1	SCREEN (B) ASSY, ORNAMENTAL
52	▲-B-736-652-05	CABINET (A64A1K10X)
53	3-662-001-00	SPRING, COMPRESSION
54	X-4382-102-1	CABINET ASSY
55	1-452-277-12	MAGNET, BMC
56	▲-1-451-255-11	DEFLECTION YOKE (SY-164)
57	▲-1-452-391-00	ASSY, CRT (NA305)
58	1-138-731-01	O BOARD, COMPLETE
59	▲-1-426-289-01	COIL, DEMAGNETIZATION
60	4-303-774-03	SPRING
61	4-306-034-00	FLANGE NUT, (B) SMM

No.	Part No.	Description
62	▲-1-205-899-11	RES, CEMENT WIRE/ROUND, 3.9
63	▲-A-1135-439-A	B BOARD, COMPLETE
64	▲-A-1245-374-A	F BOARD, COMPLETE
65	▲-1-224-101-01	FLANGE NUT, (B) HIGH-VOLTAGE
66	4-308-870-00	CLIP, LEAD WIRE
67	1-452-032-00	MAGNET, DISK, 10MM Ø
68	1-412-094-00	MAGNET, ROTATAB DISK, 10MM Ø
69	1-412-095-00	MAGNET, ROTATAB DISK, 10MM Ø
70	4-302-428-00	HEAD, WASHER, TAPPING SCREW
71	▲-1-230-212-11	RESISTOR ASSY, HIGH-VOLTAGE
72	4-382-133-01	CUSHION (B)

The components identified by shading and mark are critical for safety. Replace only with part number specified.

### 3-2. CRT

▲: TA.BV4x16

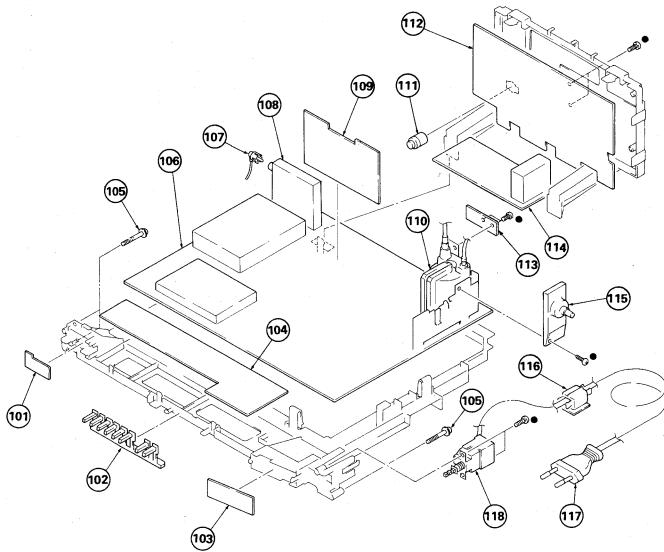


No.	Part No.	Description
51	X-4374-104-1	SCREW, ASSY, ORNAMENTAL
52	A-8-736-652-004	CRT (A642KJ101)
53	3-703-003-00	SPACER, DY
54	X-4382-102-1	CABINET ASSY
55	I-452-277-12	MAGNET, BMC
56	A-1-452-255-11	DEFLECTION Yoke (SY-164)
57	A-1-452-255-11	DEFLECTION Yoke (NA305)
58	A-1330-737-A	C BOARD, COMPLETE
59	A-1-426-211-01	COIL, DEMAGNETIZATION
60	A-4-303-774-03	SPRING
61	A-306-034-00	FLANGE NUT, (B) 5MM

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

### 3-3. CHASSIS

• TA BV3x13 7-685-648-19



Remark	No.	Part No.	Description	Remark
62	Δ1-205-899-11	REED CIRCUIT WIREWOUND 3.9		
63	Δ1-205-899-12	REED CIRCUIT WIREWOUND 3.9		
64	Δ1-245-135-13	F BOARD, COMPLETE		
65	Δ1-230-212-11	RESISTOR ASSY, HIGH-VOLTAGE		
66	4-308-670-00	CLIP, LEAD WIRE		
67	1-452-694-00	SCREW, MEDIUM, 10-32 X 1/2" (10)		
68	1-452-694-00	MAGNET, ROTATABLE DISK, 15MM 6		
69	X-4308-100-00	PERMALLOY ASSY, CONVERGENCE		
70	4-381-133-00	WASHER, TAPPING SCREW		
71	Δ1-230-212-11	RESISTOR ASSY, HIGH-VOLTAGE		
72	4-381-133-01	CUSHION, (R)		

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
101	*1-619-600-11	K2 BOARD		110	A-1-439-222-01	TRANSFORMER ASSY, F/BACK	
102	4-378-277-01	BUTTON (A), MULTI		111	A-1-263-204-12	SOCKET, ANTENNA (PA1/SECAM)	
103	*1-619-611-11	H2 BOARD		112	A-1394-113-14	K1 BOARD, COMPLETE	
104	*1-619-601-11	H1 BOARD		113	*1-620-095-11	OF BOARD	
105	4-319-520-00	SCREW, SPECIAL (+PW4X30)		114	A-1381-057-14	Y BOARD, COMPLE	
106	4-319-520-00	SCREW, STANDARD		115	A-1-232-280-01	RESISTOR ASSY, HIGH-VOLTAGE	
107	1-557-085-00	CARD, E		116	A-1-232-280-01	RESISTOR ASSY, HIGH-VOLTAGE	
108	1-463-661-11	TUNER, ET (BT-886)		117	A-1-534-817-11	CORD, POWER	
109	*4-130-966-11	BOARD, COMPLE		118	A-1-554-933-01	SWITCH, BUZZ (AC POWER) KEY	

**SECTION 4**  
**ELECTRICAL PARTS LIST**

NOTE -

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

When indicating parts by reference number, please include the board name.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

## CAPACITOR

### • CAPACITORS

- RESISTORS
- All resistors are in ohms
- F : nonflammable
- COILS
- MH : mH, UH :  $\mu$ H

- The components identified by **☒** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the values originally used.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*A-1135-439-A	B BOARD, COMPLETE	*****		CF351	1-409-344-00	CERAMIC TRAP 3.58MHZ	
	CONNECTOR			CF361	1-409-332-00	CERAMIC TRAP (4.5MHZ)	
B1	*1-566-063-11	PIN, CONNECTOR 11P				TRIMMER	
B3	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P		CV358	1-141-181-11	CAP. TRIMMER	
B5	*1-566-061-11	PIN, CONNECTOR 9P		CV443	1-141-181-11	CAP. TRIMMER	
	CAPACITOR					DIODE	
C301	1-124-445-00	ELECT	100MF	20%	16V	D305	8-719-911-19
C303	1-123-369-00	ELECT	4.7MF	20%	25V	D307	8-719-911-19
C304	1-124-907-00	ELECT	10MF	20%	50V	D328	8-719-911-19
C305	1-106-138-00	MYLAR	0.0033MF	10%	50V	D341	8-719-911-19
C308	1-124-904-00	ELECT	2.2MF	20%	50V	D351	8-719-911-19
C309	1-102-865-00	CERAMIC	8PF	0.5PF	50V	D352	8-719-911-19
C310	1-124-907-00	ELECT	10MF	20%	50V	D353	8-719-911-19
C311	1-108-841-91	MYLAR	0.022MF	10%	50V	D398	8-719-911-19
C312	1-108-841-91	MYLAR	0.022MF	10%	50V		
C313	1-102-074-00	CERAMIC	0.001MF	10%	50V		
C316	1-136-169-00	FLIM	0.22MF	5%	50V	D301	1-415-122-31
C317	1-102-074-00	CERAMIC	0.001MF	10%	50V		DELAY LINE, 1H (PAL)
C320	1-124-445-00	ELECT	100MF	20%	16V		IC
C322	1-101-005-00	CERAMIC	0.022MF	10%	50V	IC900	8-752-030-80
C324	1-124-902-00	ELECT	0.47MF	20%	50V	IC450	8-759-135-80
C327	1-102-525-00	CERAMIC	68PF	5%	50V		IC
C328	1-102-525-00	CERAMIC	68PF	5%	50V		COIL
C329	1-102-525-00	CERAMIC	68PF	5%	50V		
C330	1-124-904-00	ELECT	2.2MF	20%	50V	L327	1-408-603-00
C331	1-124-903-00	ELECT	1MF	20%	50V	L328	1-408-603-00
C332	1-102-518-00	CERAMIC	33PF	5%	50V	L329	1-408-603-00
C334	1-124-904-00	ELECT	2.2MF	20%	50V	L333	1-408-416-00
C336	1-124-904-00	ELECT	2.2MF	20%	50V	L337	1-408-244-00
C337	1-102-110-00	CERAMIC	220PF	10%	50V	L354	1-408-607-00
C340	1-124-475-11	ELECT	470MF	20%	16V	L360	1-408-619-00
C341	L-124-903-00	ELECT	1MF	20%	50V	L378	1-408-415-00
C346	L-124-903-00	ELECT	1MF	20%	50V	L473	1-408-602-21
C347	L-102-110-00	CERAMIC	220PF	10%	50V		TRANSISTOR
C350	L-101-005-00	CERAMIC	0.022MF	10%	50V	Q351	8-729-178-54
C360	L-101-005-00	CERAMIC	8PF	0.5PF	50V	Q352	8-729-178-54
C365	L-102-125-00	CERAMIC	0.0047MF	10%	50V	Q353	8-729-178-54
C367	L-101-005-00	CERAMIC	0.022MF	10%	50V	Q354	8-729-900-36
C369	L-123-332-00	ELECT	47MF	20%	16V	Q364	8-729-178-54
C370	L-101-005-00	CERAMIC	0.022MF	10%	50V	Q365	8-729-178-54
C381	L-101-004-00	CERAMIC	0.01MF	10%	50V	Q366	8-729-178-54
C384	L-102-122-00	CERAMIC	390PF	5%	50V	Q369	8-729-178-54
C387	L-102-074-00	CERAMIC	0.001MF	10%	50V	Q380	8-729-178-54
C422	L-124-902-00	ELECT	0.47MF	20%	50V	Q381	8-729-178-54
C441	L-124-902-00	ELECT	0.47MF	20%	50V	Q382	8-729-178-54
C452	L-136-169-00	FLIM	0.22MF	5%	50V	Q387	8-729-117-54
C453	L-124-445-00	ELECT	100MF	20%	16V	Q388	8-729-900-36
C472	L-108-837-00	MYLAR	0.01MF	10%	50V	Q450	8-729-117-54
C490	L-123-332-00	ELECT	47MF	20%	16V	Q470	8-729-178-54

B

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark				
<b>RESISTOR</b>											
R301	1-247-823-00	CARBON	470 5% 1/6W	R360	1-247-845-00	CARBON	3.9K 5% 1/6W				
R303	1-249-441-11	CARBON	100K 5% 1/6W	R361	1-247-845-00	CARBON	3.9K 5% 1/6W				
R304	1-247-869-00	CARBON	39K 5% 1/6W	R362	1-249-433-11	CARBON	23K 5% 1/6W				
R305	1-247-883-00	CARBON	150K 5% 1/6W	R363	1-249-417-11	CARBON	1K 5% 1/6W				
R306	1-249-435-11	CARBON	33K 5% 1/6W	R364	1-249-423-11	CARBON	3.3K 5% 1/6W				
R308	1-249-435-11	CARBON	33K 5% 1/6W	R365	1-249-437-11	CARBON	47K 5% 1/6W				
R311	1-247-875-00	CARBON	60K 5% 1/6W	R366	1-247-887-00	CARBON	220K 5% 1/6W				
R312	1-247-875-00	CARBON	60K 5% 1/6W	R367	1-249-433-11	CARBON	23K 5% 1/6W				
R313	1-247-839-00	CARBON	2.2K 5% 1/6W	R368	1-249-433-11	CARBON	23K 5% 1/6W				
R314	1-249-435-11	CARBON	33K 5% 1/6W	R369	1-247-891-00	CARBON	330K 5% 1/6W				
R315	1-249-433-11	CARBON	22K 5% 1/6W	R371	1-249-433-11	CARBON	22K 5% 1/6W				
R316	1-249-429-11	CARBON	10K 5% 1/6W	R372	1-249-433-11	CARBON	22K 5% 1/6W				
R317	1-247-839-00	CARBON	2.2K 5% 1/6W	R374	1-249-435-11	CARBON	33K 5% 1/6W				
R318	1-247-815-00	CARBON	220 5% 1/6W	R375	1-249-435-11	CARBON	33K 5% 1/6W				
R319	1-249-433-11	CARBON	22K 5% 1/6W	R376	1-249-423-11	CARBON	3.3K 5% 1/6W				
R321	1-247-713-11	CARBON	1K 5% 1/4W	R378	1-249-414-11	CARBON	560 5% 1/6W				
R323	1-249-441-11	CARBON	100K 5% 1/6W	R379	1-247-795-00	CARBON	33 5% 1/6W				
R324	1-249-441-11	CARBON	100K 5% 1/6W	R380	1-249-417-11	CARBON	1K 5% 1/6W				
R326	1-249-441-11	CARBON	100K 5% 1/6W	R381	1-249-433-11	CARBON	23K 5% 1/6W				
R327	1-249-423-11	CARBON	3.3K 5% 1/6W	R382	1-249-423-11	CARBON	3.3K 5% 1/6W				
R328	1-249-423-11	CARBON	3.3K 5% 1/6W	R383	1-247-829-00	CARBON	820 5% 1/6W				
R329	1-249-423-11	CARBON	3.3K 5% 1/6W	R384	1-247-809-00	CARBON	120 5% 1/6W				
R330	1-247-883-00	CARBON	150K 5% 1/6W	R385	1-249-417-11	CARBON	1K 5% 1/6W				
R331	1-247-903-00	CARBON	1M 5% 1/6W	R386	1-247-815-00	CARBON	220 5% 1/6W				
R332	1-247-889-00	CARBON	270K 5% 1/6W	R387	1-247-851-00	CARBON	6.8K 5% 1/6W				
R333	1-249-414-11	CARBON	560 5% 1/6W	R388	1-247-891-00	CARBON	330K 5% 1/6W				
R335	1-249-419-11	CARBON	1.5K 5% 1/6W	R391	1-249-435-11	CARBON	33K 5% 1/6W				
R336	1-247-815-00	CARBON	220 5% 1/6W	R392	1-249-417-11	CARBON	1K 5% 1/6W				
R337	1-247-851-00	CARBON	6.8K 5% 1/6W	R398	1-249-441-11	CARBON	100K 5% 1/6W				
R338	1-249-423-11	CARBON	3.3K 5% 1/6W	R404	1-249-435-11	CARBON	33K 5% 1/6W				
R339	1-247-839-00	CARBON	2.2K 5% 1/6W	R450	1-249-425-11	CARBON	4.7K 5% 1/6W				
R340	1-247-851-00	CARBON	6.8K 5% 1/6W	R451	1-249-405-11	CARBON	100 5% 1/6W				
R341	1-249-422-11	CARBON	2.7K 5% 1/6W	R452	1-249-414-11	CARBON	560 5% 1/6W				
R342	1-247-853-00	CARBON	8.2K 5% 1/6W	R453	1-249-414-11	CARBON	560 5% 1/6W				
R343	1-249-433-11	CARBON	220 5% 1/6W	R454	1-249-429-11	CARBON	10K 5% 1/6W				
R344	1-249-440-11	CARBON	82K 5% 1/6W	R455	1-247-869-00	CARBON	39K 5% 1/6W				
R345	1-249-437-11	CARBON	47K 5% 1/6W	R456	1-247-887-00	CARBON	220K 5% 1/6W				
R346	1-247-849-00	CARBON	5.6K 5% 1/6W	R457	1-247-869-00	CARBON	39K 5% 1/6W				
R347	1-247-819-00	CARBON	330 5% 1/6W	R460	1-249-435-11	CARBON	33K 5% 1/6W				
R348	1-247-819-00	CARBON	330 5% 1/6W	R471	1-247-851-00	CARBON	6.8K 5% 1/6W				
R349	1-247-819-00	CARBON	330 5% 1/6W	R472	1-249-417-11	CARBON	1K 5% 1/6W				
R350	1-249-425-11	CARBON	4.7K 5% 1/6W	R473	1-247-821-00	CARBON	390 5% 1/6W				
R351	1-247-839-00	CARBON	2.2K 5% 1/6W	<b>VARIABLE RESISTOR</b>							
R352	1-249-417-11	CARBON	1K 5% 1/6W	<b>TRANSFORMER</b>							
R353	1-247-819-00	CARBON	330 5% 1/6W	RV301	1-230-624-51	RES, ADJ, CARBON	220				
R354	1-247-819-00	CARBON	330 5% 1/6W	RV302	1-230-631-11	RES, ADJ, CARBON	22K				
R355	1-249-429-11	CARBON	10K 5% 1/6W	RV303	1-230-630-11	RES, ADJ, CARBON	10K				
R356	1-249-433-11	CARBON	22K 5% 1/6W	T301	1-404-524-11	DAT					
R357	1-249-433-11	CARBON	22K 5% 1/6W								
R358	1-249-433-11	CARBON	22K 5% 1/6W								
R359	1-249-441-11	CARBON	100K 5% 1/6W								

B

F

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
<u>CRYSTAL</u>							
X358	1-527-396-00	CRYSTAL, OSC		D601	A-8-719-503-06	DIODE S3MB602	
X443	1-527-345-00	CRYSTAL, OSC		D611	8-719-118-34	DIODE RD110F-B	
				D612	8-719-924-06	DIODE ERC24-06S	
				D613	8-719-924-06	DIODE ERC24-06S	
				D614	8-719-924-06	DIODE ERC24-06S	
YCM301	1-235-833-11	YC MODULE					
*****							
*A-1245-379-A F BOARD, COMPLETE				D615	8-719-109-97	DIODE RD6.8E5-B2	
*****				D616	8-719-924-06	DIODE ERC24-06S	
*****				D617	8-719-911-19	DIODE I5S119	
*****				D619	8-719-924-06	DIODE ERC24-06S	
*****				D622	8-719-110-46	DIODE RD16E5-B3	
<u>CAPACITOR</u>							
C600	A-1-136-360-51	FILM	0.12MF	D623	8-719-102-35	DIODE RD36E-L1	
			20%	D624	8-719-102-35	DIODE RD36E-L1	
			250V	D651	8-719-300-33	DIODE RU-3AM	
C601	A-1-136-360-51	FILM	0.12MF	D652	8-719-924-06	DIODE ERC24-06S	
C602	A-1-161-964-61	CERAMIC	0.0047MF	D653	8-719-933-13	DIODE ERC35-02	
C603	A-1-161-964-61	CERAMIC	0.0047MF				
C604	A-1-161-964-61	CERAMIC	0.0047MF	D654	8-719-911-19	DIODE I5S119	
			250V	D655	8-719-110-31	DIODE RD12E5-B2	
C605	A-1-161-964-61	CERAMIC	0.0047MF	D656	8-719-109-88	DIODE RD5.6E5-B1	
C606	1-125-287-00	ELECT(BLOCK)	430MF	D658	8-719-911-19	DIODE I5S119	
C613	1-123-946-00	ELECT	4.7MF	D659	8-719-924-06	DIODE ERC24-06S	
C614	1-136-084-00	FILM	0.002MF				
C615	1-129-765-00	FILM	0.047MF				
			10%				
			200V				
C616	1-124-798-11	ELECT	1MF	D661	*1-506-349-21	3P PLUG (L)	
C617	1-124-042-91	ELECT	0.47MF	F2	*1-508-765-00	3P PLUG (M)	
C618	1-162-318-11	CERAMIC	0.001MF	F3	*1-508-756-00	2P PLUG (M)	
C619	1-124-996-00	ELECT	33MF	F4	*1-508-767-00	5P PLUG	
C620	1-124-443-00	ELECT	100MF	F5	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
C621	1-136-145-00	FILM	0.0022MF	F6	*1-506-371-00	2P PLUG (L)	
C622	1-104-067-00	POLYSTYRENE	390PF				
C623	1-124-125-91	ELECT(BLOCK)	560MF				
C624	1-162-318-11	CERAMIC	0.001MF				
C625	1-123-607-00	ELECT	0.1MF				
			20%				
			50V				
C626	1-162-115-00	CERAMIC	330PF				
C651	1-125-295-00	ELECT(BLOCK)	560MF				
C652	1-162-115-00	CERAMIC	330PF				
C654	1-102-030-00	CERAMIC	330PF				
C655	1-102-030-00	CERAMIC	330PF				
			10%				
			500V				
C657	1-162-115-00	CERAMIC	330PF				
C658	1-124-038-00	ELECT	1MF				
C659	1-108-833-00	MYLAR	0.0047MF				
C660	A-1-162-578-51	CERAMIC	0.0047MF				
C661	A-1-162-578-51	CERAMIC	0.0047MF				
			20%				
			400V				
<u>FUSE</u>							
F601 A-1-532-299-11 FUSE, TIME-LAG 5A/250V							
1-533-189-11 HOLDER, FUSE; F601							
C627	1-162-115-00	CERAMIC	330PF				
C651	1-125-295-00	ELECT(BLOCK)	560MF				
C652	1-162-115-00	CERAMIC	330PF				
C654	1-102-030-00	CERAMIC	330PF				
C655	1-102-030-00	CERAMIC	330PF				
			10%				
			500V				
C657	1-162-115-00	CERAMIC	330PF				
C658	1-124-038-00	ELECT	1MF				
C659	1-108-833-00	MYLAR	0.0047MF				
C660	A-1-162-578-51	CERAMIC	0.0047MF				
C661	A-1-162-578-51	CERAMIC	0.0047MF				
			20%				
			400V				
<u>IC</u>							
IC601 A-8-759-100-75 IC UPC1394C							
IC602 8-719-939-00 PC1115							
IC651 8-759-927-49 IC IR9431							
<u>NEON LAMP</u>							
NL601 1-519-402-11 LAMP, NEON							
<u>TRANSISTOR</u>							
C662	1-102-030-00	CERAMIC	330PF	Q611	8-729-168-82	TRANSISTOR ZSC2688	
C671	1-124-556-11	ELECT	2200MF	Q612	8-729-168-82	TRANSISTOR ZSC2688	
C673	1-124-789-11	ELECT	2200MF	Q613	8-729-802-14	TRANSISTOR ZSC3460	
C674	1-124-607-11	ELECT	2200MF				
C676	1-102-978-00	CERAMIC	220PF				
			5%				
			50V				
C677	1-108-691-81	MYLAR	0.0082MF	Q614	8-729-168-82	TRANSISTOR ZSC2688	
C680	1-102-030-00	CERAMIC	330PF	Q615	8-729-178-54	TRANSISTOR ZSC2785	
			10%	Q617	8-729-178-54	TRANSISTOR ZSC2785	
			500V				

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

F A

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
<b>RESISTOR</b>							
R611	1-216-444-11	METAL OXIDE	82K 5%	1W	F		
R612	1-216-444-11	METAL OXIDE	82K 5%	1W	F		
R613	1-249-496-11	CARBON	100K 5%	1/2W	F		
R614	1-215-922-11	METAL OXIDE	6.8K 5%	3W	F		
R615	1-246-529-00	CARBON	220K 5%	1/4W			
R616	1-247-706-11	CARBON	330 5%	1/4W			
R617	1-247-710-11	CARBON	3.3K 5%	1/4W			
R618	1-247-789-00	CARBON	18 5%	1/6W			
R619	1-217-201-11	WIREWOUND	1.2 10%	2W	F		
R620	1-217-190-00	WIREWOUND	0.15 10%	2W	F		
R621	1-249-417-11	CARBON	1K 5%	1/6W			
R622	1-249-434-11	CARBON	27K 5%	1/6W			
R623	1-215-457-00	METAL	33K 1%	1/6W			
R624	1-249-429-11	CARBON	10K 5%	1/6W			
R625	1-247-275-11	CARBON	33K 5%	1/6W			
R626	1-247-819-00	CARBON	330 5%	1/6W			
R627	1-247-873-00	CARBON	56K 5%	1/6W			
R628	1-215-469-00	METAL	100K 1%	1/6W			
R629	1-249-429-11	CARBON	10K 5%	1/6W			
R630	1-215-459-00	METAL	33K 1%	1/6W			
R631	1-247-845-00	CARBON	3.9K 5%	1/6W			
R632	1-247-751-11	CARBON	1.2K 5%	1/2W	F		
R633	1-249-441-11	CARBON	100K 5%	1/6W			
R634	1-249-417-11	CARBON	1K 5%	1/6W			
R635	1-215-414-11	METAL OXIDE	330 5%	3W	F		
R636	1-215-914-11	METAL OXIDE	330 5%	3W	F		
R638	1-302-719-00	SOLID	1M 10%	1/2W			
R639	1-202-720-00	SOLID	1.2M 10%	1/2W			
R640	1-247-873-00	CARBON	56K 5%	1/6W			
R646	1-247-721-11	CARBON	4.7K 5%	1/4W			
R652	1-215-900-11	METAL OXIDE	22K 5%	2W	F		
R653	1-249-417-11	CARBON	1K 5%	1/6W			
R654	1-246-523-00	CARBON	120K 5%	1/4W			
R655	1-241-777-00	METAL	100K 1%	1/4W			
R656	1-247-895-00	CARBON	470K 5%	1/6W			
R657	1-247-881-00	CARBON	120K 5%	1/6W			
R658	1-247-289-11	CARBON	8.2K 5%	1W			
R659	1-205-758-11	CEMENTED	100 10%	10W	F		
R660	1-205-756-11	CEMENTED	100 10%	10W	F		
R663	1-244-905-00	CARBON	22K 5%	1/2W			
R665	1-215-425-00	METAL	1.5K 1%	1/6W			
R668	1-249-470-11	CARBON	0.47 5%	1/2W	F		
R669	1-249-443-11	CARBON	0.47 5%	1/4W	F		
R671	1-215-415-00	METAL	560 1%	1/6W			
R680	1-215-924-11	METAL OXIDE	330 5%	3W	F		
R681	1-215-914-11	METAL OXIDE	330 5%	3W	F		
R682	1-216-486-00	METAL OXIDE	8.2K 5%	3W	F		
<b>VARIABLE RESISTOR</b>							
RV601	1-230-624-51	RES, ADJ, CARBON	220				
<b>SPARK GAP</b>							
S6601A-1-516-062-21 DISCHARGING GAP							
<b>TRANSFORMER</b>							
T601	A-1-421-562-11	LEAD					
T602	A-1-437-079-00	TRANSFORMER, HORIZONTAL DRIVE					
T603	A-1-448-678-11	S, R, V					
<b>THERMISTOR</b>							
TM611	1-800-954-00	THERMISTOR 5-3K					
THP604A	1-804-387-11	THERMISTOR (POSITIVE)					
THP602A	1-804-387-11	THERMISTOR (POSITIVE)					
THP611	1-807-598-11	THERMISTOR (POSITIVE)					
*****							
*A-1296-266-A A BOARD, COMPLETE							
*****							
*1-508-766-00 4P PLUG (M)							
<b>CONNECTOR</b>							
A0	*1-564-354-00	PLUG, CONNECTOR (2.5MM)	3P				
A1	*1-564-063-11	PIN, CONNECTOR 11P					
A2	*1-508-768-00	6P PLUG					
A3	*1-564-353-00	PLUG, CONNECTOR (2.5MM)	2P				
A4	*1-508-767-00	5P PLUG					
A5	*1-566-061-11	PIN, CONNECTOR 9P					
A6	*1-564-446-11	PLUG, CONNECTOR (2.5MM)	10P				
A7	*1-564-443-11	PLUG, CONNECTOR (2.5MM)	7P				
AB	*1-566-061-11	PIN, CONNECTOR 9P					
A9	*1-564-441-11	PLUG, CONNECTOR (2.5MM)	5P				
A10	*1-564-446-11	PLUG, CONNECTOR (2.5MM)	10P				
A11	*1-564-353-00	PLUG, CONNECTOR (2.5MM)	2P				
A14	*1-508-765-00	3P PLUG (M)					
A15	*1-564-346-00	CONNECTOR, BOARD TO BOARD 18P					
A16	*1-564-353-00	PLUG, CONNECTOR (2.5MM)	2P				
A17	*1-508-784-00	1P PLUG					
<b>CAPACITOR</b>							
C001	1-102-106-00	CERAMIC	100PF	10%	50V		
C002	1-136-165-00	FILM	0.1MF	5%	50V		
C003	1-124-907-00	ELECT	10MF	20%	50V		
C004	1-123-332-00	ELECT	47MF	20%	16V		
C005	1-124-927-11	ELECT	4.7MF	20%	50V		
C006	1-101-004-00	CERAMIC	0.01MF		50V		
C007	1-124-927-11	ELECT	4.7MF	20%	50V		
C008	1-124-927-11	ELECT	4.7MF	20%	50V		
C011	1-119-160-00	ELECT	470MF		10V		
C014	1-124-907-00	ELECT	10MF	20%	50V		

The components identified by **■** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by **A** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

A

Ref.No.	Part No.	Description			Remark	Ref.No.	Part No.	Description			Remark
C017	1-123-820-00	ELECT	33MF	20%	50V	C262	1-102-516-00	CERAMIC	27PF	5%	50V
C018	1-102-110-00	CERAMIC	220PF	10%	50V	C281	1-124-119-00	ELECT	330MF	20%	16V
C021	1-101-003-00	CERAMIC	0.0047MF	10%	50V	C282	1-101-005-00	CERAMIC	0.022MF	5%	50V
C025	1-102-074-00	CERAMIC	0.001MF	10%	50V	C287	1-124-904-00	ELECT	2.2MF	20%	50V
C031	1-102-110-00	CERAMIC	220PF	10%	50V	C291	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C032	1-102-074-00	CERAMIC	0.001MF	10%	50V	C282	1-123-321-00	ELECT	220MF	20%	16V
C033	1-102-074-00	CERAMIC	0.001MF	10%	50V	C293	1-124-907-00	ELECT	10MF	20%	50V
C035	1-101-003-00	CERAMIC	0.0047MF	10%	50V	C294	1-124-907-00	ELECT	10MF	20%	50V
C040	1-102-074-00	CERAMIC	0.001MF	10%	50V	C295	1-136-165-00	FILM	0.1MF	5%	50V
C052	1-102-114-00	CERAMIC	470PF	10%	50V	C296	1-136-163-00	FILM	0.068MF	5%	50V
C053	1-102-112-00	CERAMIC	330PF	10%	50V	C297	1-102-963-00	CERAMIC	33MF	5%	50V
C054	1-124-927-11	ELECT	4.7MF	20%	50V	C298	1-124-896-00	ELECT	33MF	20%	16V
C055	1-102-508-00	CERAMIC	10PF	0.5PF	50V	C299	1-124-907-00	ELECT	10MF	20%	50V
C056	1-102-508-00	CERAMIC	10PF	0.5PF	50V	C501	1-108-634-81	MYLAR	0.047MF	10%	100V
C057	1-102-523-00	CERAMIC	56PF	5%	50V	C502	1-124-903-00	ELECT	1MF	20%	50V
C060	1-102-121-00	CERAMIC	0.0022MF	10%	50V	C503	1-105-176-00	MYLAR	0.0015MF	10%	50V
C081	1-123-321-00	ELECT	220MF	20%	16V	C504	1-136-173-00	FILM	0.47MF	5%	50V
C082	1-124-896-00	ELECT	33MF	20%	16V	C505	1-108-633-81	MYLAR	0.039MF	10%	100V
C083	1-124-927-11	ELECT	4.7MF	20%	50V	C506	1-124-903-00	ELECT	1MF	20%	50V
C084	1-124-903-00	ELECT	1MF	20%	50V	C507	1-108-837-00	MYLAR	0.01MF	10%	50V
C201	1-102-508-00	CERAMIC	10PF	0.5PF	50V	C508	1-124-903-00	ELECT	1MF	20%	50V
C202	1-102-510-00	CERAMIC	12PF	5%	50V	C509	1-124-445-00	ELECT	100MF	20%	16V
C203	1-102-125-00	CERAMIC	0.0047MF	10%	50V	C510	1-124-902-00	ELECT	0.47MF	20%	50V
C205	1-102-125-00	CERAMIC	0.0047MF	10%	50V	C512	1-124-904-00	ELECT	2.2MF	20%	50V
C206	1-102-125-00	CERAMIC	0.0047MF	10%	50V	C513	1-108-634-81	MYLAR	0.047MF	10%	100V
C207	1-102-852-00	CERAMIC	47PF	5%	50V	C514	1-101-004-00	CERAMIC	0.01MF	50V	
C208	1-102-510-00	CERAMIC	12PF	5%	50V	C515	1-124-555-00	ELECT	100MF	20%	16V
C209	1-102-125-00	CERAMIC	0.0047MF	10%	50V	C516	1-108-841-91	MYLAR	0.022MF	10%	50V
C210	1-102-125-00	CERAMIC	0.0047MF	10%	50V	C517	1-101-888-00	CERAMIC	68PF	5%	50V
C211	1-102-125-00	CERAMIC	0.0047MF	10%	50V	C518	1-108-837-00	MYLAR	0.01MF	10%	50V
C213	1-102-516-00	CERAMIC	27PF	5%	50V	C519	1-123-321-00	ELECT	220MF	20%	16V
C214	1-102-518-00	CERAMIC	33PF	5%	50V	C520	1-124-903-00	ELECT	1MF	20%	50V
C215	1-102-520-00	CERAMIC	39PF	5%	50V	C521	1-124-903-00	ELECT	1MF	20%	50V
C216	1-102-945-00	CERAMIC	8PF	1PF	50V	C522	1-129-794-00	FILM	0.0033MF	2%	100V
C217	1-102-944-00	CERAMIC	7PF	1PF	50V	C523	1-106-180-00	MYLAR	0.0022MF	5%	50V
C219	1-102-518-00	CERAMIC	33PF	5%	50V	C524	1-108-841-91	MYLAR	0.027MF	10%	50V
C220	1-102-518-00	CERAMIC	33PF	5%	50V	C525	1-124-907-00	ELECT	10MF	20%	50V
C227	1-161-051-00	CERAMIC	0.01MF	10%	50V	C526	1-108-614-91	MYLAR	0.001MF	10%	100V
C229	1-161-059-00	CERAMIC	0.047MF	10%	25V	C527	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C230	1-124-907-00	ELECT	10MF	20%	50V	C530	1-124-445-00	ELECT	100MF	20%	16V
C231	1-124-902-00	ELECT	0.47MF	20%	50V	C531	1-124-907-00	ELECT	10MF	20%	50V
C232	1-161-051-00	CERAMIC	0.01MF	10%	50V	C532	1-102-108-00	CERAMIC	150PF	10%	50V
C233	1-102-525-00	CERAMIC	68PF	5%	50V	C533	1-102-820-00	CERAMIC	330PF	5%	50V
C234	1-102-125-00	CERAMIC	0.0047MF	10%	50V	C535	1-108-627-91	MYLAR	0.012MF	10%	100V
C235	1-124-896-00	ELECT	33MF	20%	16V	C552	1-102-244-00	CERAMIC	220PF	10%	500V
C236	1-161-059-00	CERAMIC	0.047MF	10%	25V	C553	1-123-875-91	ELECT	10MF	20%	50V
C237	1-102-125-00	CERAMIC	0.0047MF	10%	50V	C554	1-102-030-00	CERAMIC	330PF	10%	500V
C238	1-123-321-00	ELECT	220MF	20%	16V	C555	1-102-038-00	CERAMIC	0.001MF	50V	
C241	1-124-445-00	ELECT	100MF	20%	16V	C556	1-124-801-11	ELECT	4.7MF	20%	16V
C251	1-102-526-00	CERAMIC	75PF	5%	50V	C557	1-108-431-00	MYLAR	0.068MF	10%	200V
C252	1-102-852-00	CERAMIC	47PF	5%	50V	C558	1-124-912-11	ELECT	330MF	20%	50V
C253	1-102-516-00	CERAMIC	27PF	5%	50V	C559	1-129-742-00	FILM	0.018MF	10%	400V
C261	1-123-332-00	ELECT	47MF	20%	16V						

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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark				
C560	1-124-913-11	ELECT	470MF	20%	50V	C893	1-123-321-00	ELECT	220MF	20%	16V
C581	1-102-125-00	CERAMIC	0.0047MF	10%	50V						
C582	1-102-125-00	CERAMIC	0.0047MF	10%	50V						
C584	1-101-880-00	CERAMIC	47PF	5%	50V						
C585	1-123-332-00	ELECT	47MF	20%	16V	CF241	1-527-943-00	FILTER, CERAMIC			
C801	1-102-114-00	CERAMIC	470PF	10%	50V	CF242	1-409-332-00	CERAMIC TRAP			
C802	1-124-002-11	ELECT	1MF	20%	50V	CF243	1-404-469-00	DISCRIMINATOR, CERAMIC 4.5MHZ			
C803	1-124-902-00	ELECT	0.47MF	20%	50V	CF251	1-567-099-00	FILTER, CERAMIC			
C804	1-102-114-00	CERAMIC	470PF	10%	50V	CF252	1-404-134-00	TRAP, CERAMIC (5.5MHZ)			
C805	1-102-030-00	CERAMIC	330PF	10%	500V	CF253	1-404-473-00	DISCRIMINATOR, CERAMIC			
C806	1-108-614-91	MYLAR	0.001MF	10%	100V	CF261	1-567-100-00	FILTER, CERAMIC			
C807	1-105-385-00	MYLAR	0.056MF	10%	200V	CF262	1-409-333-00	TRAP, CERAMIC (6.0MHZ)			
C808	1-123-024-00	ELECT	33MF	16V		CF263	1-404-490-00	DISCRIMINATOR, CERAMIC (6.0MHZ)			
C809	1-124-119-00	ELECT	330MF	20%	16V						
C810	1-136-117-00	FILM	2MF	5%	200V						
C811	1-124-116-51	CERAMIC	680PF	10%	2KV	D003	8-719-911-19	DIODE 1SS119			
C812	1-136-080-11	FILM	0.011MF	3%	2KV	D006	8-719-911-19	DIODE 1SS119			
C813	1-161-754-11	CERAMIC	0.001MF	10%	3KV	D007	8-719-911-19	DIODE 1SS119			
C814	1-108-632-81	MYLAR	0.032MF	10%	100V	D008	8-719-911-19	DIODE 1SS119			
C815	1-124-905-11	ELECT	3.3MF	20%	50V	D009	8-719-911-19	DIODE 1SS119			
C816	1-102-963-00	CERAMIC	33PF	5%	50V	D010	8-719-911-19	DIODE 1SS119			
C817	1-136-334-81	FILM	0.033MF	5%	630V	D011	8-719-102-26	DIODE R03E-4			
C818	1-130-797-11	FILM	0.65MF	10%	250V	D012	8-719-911-19	DIODE 1SS119			
C819	1-108-692-81	MYLAR	0.01MF	10%	200V	D013	8-719-911-19	DIODE 1SS119			
C820	1-136-053-00	FILM	1.2MF	5%	200V	D016	8-719-110-02	DIODE RD7.5E-81			
C821	1-102-112-00	CERAMIC	330PF	10%	50V	D020	8-719-911-19	DIODE 1SS119			
C822	1-162-115-00	CERAMIC	680PF	10%	2KV	D024	8-719-911-19	DIODE 1SS119			
C823	1-124-445-00	ELECT	100MF	20%	16V	D025	8-719-109-71	DIODE R03.9E5-81			
C824	1-102-228-00	CERAMIC	470PF	10%	500V	D027	8-719-911-19	DIODE 1SS119			
C825	1-124-903-00	ELECT	1MF	20%	50V	D028	8-719-911-19	DIODE 1SS119			
C830	1-162-116-00	CERAMIC	680PF	10%	2KV	D029	8-719-911-19	DIODE 1SS119			
C831	1-131-351-00	TANTALUM	4.7MF	10%	35V	D031	8-719-911-19	DIODE 1SS119			
C832	1-124-902-00	ELECT	0.47MF	20%	50V	D032	8-719-911-19	DIODE 1SS119			
C833	1-124-892-11	ELECT	47MF	20%	10V	D033	8-719-911-19	DIODE 1SS119			
C834	1-124-907-00	ELECT	10MF	20%	50V	D034	8-719-911-19	DIODE 1SS119			
C835	1-124-908-11	ELECT	2MF	20%	50V	D052	8-719-911-19	DIODE 1SS119			
C836	1-124-907-00	ELECT	10MF	20%	50V	D053	8-719-000-12	DIODE MC931			
C837	1-124-902-00	ELECT	0.47MF	20%	50V	D054	8-719-000-12	DIODE MC931			
C851	1-102-038-00	CERAMIC	0.001MF	500V		D053	8-719-911-19	DIODE 1SS119			
C852	1-123-948-00	ELECT	22MF	20%	250V	D054	8-719-911-19	DIODE 1SS119			
C853	1-162-108-00	CERAMIC	0.0047MF	2KV		D085	8-719-911-19	DIODE 1SS119			
C856	1-108-634-81	MYLAR	0.047MF	10%	100V	D036	8-719-911-19	DIODE 1SS119			
C857	1-108-634-81	MYLAR	0.047MF	10%	100V	D087	8-719-108-90	DIODE R05.6E5-83			
C858	1-108-634-81	MYLAR	0.047MF	10%	100V	D088	8-719-108-86	DIODE R05.1E5-83			
C859	1-108-425-00	MYLAR	0.022MF	10%	200V	D089	8-719-911-19	DIODE 1SS119			
C860	1-102-038-00	CERAMIC	0.001MF	500V		D203	8-719-911-19	DIODE 1SS119			
C861	1-124-445-00	ELECT	100MF	20%	16V	D204	8-719-911-19	DIODE 1SS119			
C862	1-124-902-00	ELECT	100MF	20%	16V	D205	8-719-911-19	DIODE 1SS119			
C864	1-124-927-11	ELECT	4.7MF	20%	50V	D206	8-719-911-19	DIODE 1SS119			
C866	1-136-080-00	FILM	0.011MF	3%	2KV	D210	8-719-911-19	DIODE 1SS119			
C877	1-124-907-00	ELECT	10MF	20%	50V	D212	8-719-911-19	DIODE 1SS119			
C891	1-124-445-00	ELECT	100MF	20%	16V	D241	8-719-109-81	DIODE R04.7E5-B2			
C892	1-123-321-00	ELECT	220MF	20%	16V	D251	8-719-109-85	DIODE R05.1E5-B2			
						D261	8-719-109-85	DIODE R05.1E5-B2			

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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
D281	8-719-110-17	DIODE RD10ES-B2		L254	1-408-607-00	MICRO INDUCTOR 22UH	
D501	8-719-911-19	DIODE LSS119		L255	1-408-410-00	MICRO INDUCTOR 12UH	
D502	8-719-911-19	DIODE LSS119		L264	1-408-607-00	MICRO INDUCTOR 22UH	
D503	8-719-911-19	DIODE LSS119		L265	1-408-410-00	MICRO INDUCTOR 12UH	
D551	8-719-911-19	DIODE LSS119		L287	1-408-603-00	MICRO INDUCTOR 10UH	
D552	8-719-924-06	DIODE ERC24-06S		L291	1-408-421-00	MICRO INDUCTOR 100UH	
D553	8-719-924-06	DIODE ERC24-06S		L801	1-407-365-00	COIL, CHOKE	
D554	8-719-924-06	DIODE ERC24-06S		L803	1-407-365-00	COIL, CHOKE	
D561	8-719-911-19	DIODE LSS119		L804	1-408-239-00	MICRO INDUCTOR 4.7MMH	
D801	8-719-305-15	DIODE GH3F		L805	1-459-224-12	MICRO	
D802	8-719-900-26	DIODE ER029-08J		L806	1-421-390-11	MICRO INDUCTOR 100UH	
D803	8-719-305-15	DIODE GH3F		L807	1-437-050-00	HD	
D811	8-719-911-19	DIODE LSS119		L822	1-459-442-11	COIL WITH CORE	
D831	8-719-190-00	DIODE RD24E-B27		L834	1-408-242-00	MICRO INDUCTOR 10MMH	
D832	8-719-100-35	DIODE RD5.6E-B2		L871	1-459-585-11	COIL WITH CORE (DRUM TYPE)	
D851	8-719-924-06	DIODE ERC24-06S		L891	1-408-300-00	MICRO INDUCTOR 6.8UH	
D852	8-719-300-65	DIODE FS1F				TRANSISTOR	
D854	8-719-924-06	DIODE ERC24-06S		0001	8-729-178-54	TRANSISTOR 2SC2785	
D855	8-719-924-06	DIODE ERC24-06S		0003	8-729-900-36	TRANSISTOR DTC124E5	
D856	8-719-924-06	DIODE ERC24-06S		0004	8-729-900-36	TRANSISTOR DTC124E5	
D858	8-719-911-55	DIODE U056		0005	8-729-900-36	TRANSISTOR DTC124E5	
D891	8-719-110-36	DIODE RD13ES-B2		0009	8-729-900-63	TRANSISTOR DTA124E5	
D892	8-719-911-19	DIODE LSS119					
<u>IC</u>							
IC001	8-759-604-26	IC M50436-51BSP		0025	8-729-117-54	TRANSISTOR 2SA1175	
*4-367-523-00		CASE (MAIN), SHIELD; IC001		0051	8-729-900-36	TRANSISTOR DTC124E5	
*4-367-524-00		LID, UPPER, SHIELD CASE; IC001		0052	8-729-900-36	TRANSISTOR DTC124E5	
IC002	8-759-603-41	IC M5865SP		0053	8-729-178-54	TRANSISTOR 2SC2785	
IC003	8-759-157-40	IC UPC574J		0083	8-729-900-63	TRANSISTOR DTA124E5	
IC004	8-759-340-52	IC HD14052B		0084	8-729-117-54	TRANSISTOR 2SA1175	
IC081	8-759-105-33	IC UPC795-05J		0200	8-729-105-47	TRANSISTOR 2SC2026	
IC201	8-752-001-51	IC CA20015A		0211	8-729-178-54	TRANSISTOR 2SC2785	
*4-376-533-01		CASE (MAIN), SHIELD; IC201		0241	8-729-178-54	TRANSISTOR 2SC2785	
*4-376-534-01		CASE (UPPER), SHIELD; IC201		0242	8-729-178-54	TRANSISTOR 2SC2785	
*4-376-535-01		CASE (BOTTOM), SHIELD; IC201		0243	8-729-900-36	TRANSISTOR DTC124E5	
IC202	8-759-340-52	IC HD14052B		0244	8-729-178-54	TRANSISTOR 2SC2785	
IC501	8-759-100-80	IC UPC1377C		0245	8-729-900-36	TRANSISTOR DTC124E5	
IC581	8-759-909-70	IC CK20325		0246	8-729-900-36	TRANSISTOR DTC124E5	
				0251	8-729-178-54	TRANSISTOR 2SC2785	
				0252	8-729-178-54	TRANSISTOR 2SC2785	
L001	1-408-603-00	MICRO INDUCTOR 10UH		0253	8-729-900-36	TRANSISTOR DTC124E5	
L051	1-408-608-41	MICRO INDUCTOR 27UH		0254	8-729-178-54	TRANSISTOR 2SC2785	
L052	1-408-595-00	MICRO INDUCTOR 2.2UH		0261	8-729-178-54	TRANSISTOR 2SC2785	
L201	1-408-412-00	MICRO INDUCTOR 18UH		0262	8-729-178-54	TRANSISTOR 2SC2785	
L202	1-408-397-00	MICRO INDUCTOR 10UH		0263	8-729-900-36	TRANSISTOR DTC124E5	
L203	1-408-421-00	MICRO INDUCTOR 100UH		0264	8-729-178-54	TRANSISTOR 2SC2785	
L214	1-404-489-00	COIL		0281	8-729-900-36	TRANSISTOR DTC124E5	
L215	1-404-489-00	COIL		0282	8-729-378-84	TRANSISTOR 2SD783	
L216	1-408-401-00	MICRO INDUCTOR 2.2UH		0291	8-729-178-54	TRANSISTOR 2SC2785	
L217	1-408-401-00	MICRO INDUCTOR 2.2UH		0292	8-729-117-54	TRANSISTOR 2SA1175	
L219	1-408-412-00	MICRO INDUCTOR 18UH		0293	8-729-117-54	TRANSISTOR 2SA1175	
L245	1-408-412-00	MICRO INDUCTOR 18UH		0294	8-729-117-54	TRANSISTOR 2SA1175	
				0501	8-729-178-54	TRANSISTOR 2SC2785	
				0502	8-729-117-54	TRANSISTOR 2SA1175	

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
Q504	8-729-178-54	TRANSISTOR 2SC2785		R030	1-249-429-11	CARBON	10K 5% 1/6W
Q551	8-729-195-82	TRANSISTOR 2SC2958		R032	1-247-725-11	CARBON	10K 5% 1/4W
Q552	8-729-122-02	TRANSISTOR 2SA1220A		R033	1-249-429-11	CARBON	10K 5% 1/6W
Q553	4-303-483-00	HEAD, WASHER, TAPPING SCREW; Q552		R035	1-247-725-11	CARBON	10K 5% 1/4W
Q553	8-729-169-02	TRANSISTOR 2SC2690A		R038	1-247-623-00	CARBON	470 5% 1/6W
Q554	8-729-103-43	TRANSISTOR 25B734		R039	1-247-823-00	CARBON	470 5% 1/6W
Q581	8-729-800-43	TRANSISTOR DTC144ES		R040	1-247-823-00	CARBON	470 5% 1/6W
Q583	8-729-900-36	TRANSISTOR DTC124ES		R041	1-247-708-11	CARBON	470 5% 1/4W
Q584	8-729-900-89	TRANSISTOR DTC144ES		R042	1-247-708-11	CARBON	470 5% 1/4W
Q586	8-729-900-89	TRANSISTOR DTC144ES		R043	1-247-708-11	CARBON	470 5% 1/4W
Q801	8-729-158-82	TRANSISTOR 2SC2638		R044	1-247-708-11	CARBON	470 5% 1/4W
Q802	8-729-300-99	TRANSISTOR 2SC1497-06		R045	1-247-823-00	CARBON	470 5% 1/6W
	4-363-414-00	SPACER, MICA; Q802		R046	1-247-823-00	CARBON	470 5% 1/6W
	★4-368-683-01	SPRING; Q802		R047	1-247-823-00	CARBON	470 5% 1/6W
Q803	8-729-178-54	TRANSISTOR 2SC2785		R048	1-247-823-00	CARBON	470 5% 1/6W
Q804	8-729-178-54	TRANSISTOR 2SC2785		R049	1-247-883-00	CARBON	150K 5% 1/6W
Q805	8-729-177-43	TRANSISTOR 2SC1774		R051	1-249-437-11	CARBON	47K 5% 1/6W
Q806	8-729-103-43	TRANSISTOR 25B734		R052	1-249-435-11	CARBON	33K 5% 1/6W
Q831	8-729-309-08	TRANSISTOR 2SC1890A		R053	1-249-723-11	CARBON	6.8K 5% 1/4W
Q832	8-729-178-54	TRANSISTOR 2SC2785		R058	1-249-425-11	CARBON	4.7K 5% 1/6W
Q833	8-729-178-54	TRANSISTOR 2SC2785		R059	1-249-423-11	CARBON	3.3K 5% 1/6W
Q834	8-729-117-54	TRANSISTOR 2SA1175		R061	1-249-429-11	CARBON	10K 5% 1/6W
Q871	8-719-801-06	TRANSISTOR S6344G		R063	1-249-433-11	CARBON	22K 5% 1/6W
Q891	8-729-178-54	TRANSISTOR 2SC2785		R064	1-247-851-00	CARBON	6.8K 5% 1/6W
Q892	8-729-201-78	TRANSISTOR 2SD1406		R065	1-249-425-11	CARBON	4.7K 5% 1/6W
	RESISTOR			R066	1-247-815-00	CARBON	220 5% 1/6W
R001	1-249-433-11	CARBON	22K 5% 1/6W	R067	1-247-163-00	CARBON	22K 5% 1/4W
R002	1-249-433-11	CARBON	22K 5% 1/6W	R068	1-246-511-00	CARBON	39K 5% 1/4W
R003	1-249-433-11	CARBON	22K 5% 1/6W	R069	1-249-433-11	CARBON	22K 5% 1/6W
R004	1-249-433-11	CARBON	22K 5% 1/6W	R071	1-247-725-11	CARBON	10K 5% 1/4W
R005	1-215-900-11	METAL OXIDE	22K 5% 2W F	R078	1-247-721-11	CARBON	4.7K 5% 1/4W
R006	1-249-429-11	CARBON	10K 5% 1/6W	R083	1-247-853-00	CARBON	8.2K 5% 1/6W
R007	1-247-708-11	CARBON	470 5% 1/4W	R084	1-247-897-00	CARBON	560K 5% 1/6W
R008	1-249-429-11	CARBON	10K 5% 1/6W	R085	1-247-719-11	CARBON	3.3K 5% 1/4W
R011	1-249-467-11	CARBON	68K 5% 1/4W	R086	1-247-149-00	CARBON	5.6K 5% 1/4W
R012	1-247-887-00	CARBON	220K 5% 1/6W	R087	1-247-721-11	CARBON	4.7K 5% 1/4W
R013	1-247-708-11	CARBON	470 5% 1/4W	R088	1-247-721-11	CARBON	4.7K 5% 1/4W
R014	1-249-461-11	CARBON	18K 5% 1/4W	R089	1-247-721-11	CARBON	4.7K 5% 1/4W
R016	1-246-525-00	CARBON	150K 5% 1/4W	R091	1-247-717-11	CARBON	2.2K 5% 1/4W
R017	1-247-823-00	CARBON	470 5% 1/6W	R093	1-247-815-00	CARBON	220 5% 1/6W
R018	1-247-721-11	CARBON	4.7K 5% 1/4W	R020	1-247-829-00	CARBON	820 5% 1/6W
R019	1-249-469-11	CARBON	100K 5% 1/6W	R0202	1-247-833-00	CARBON	1.2K 5% 1/6W
R020	1-246-525-00	CARBON	150K 5% 1/4W	R0203	1-247-823-00	CARBON	470 5% 1/6W
R021	1-247-713-11	CARBON	1K 5% 1/4W	R0204	1-247-813-00	CARBON	180 5% 1/6W
R022	1-247-713-11	CARBON	1K 5% 1/4W	R0205	1-247-823-00	CARBON	470 5% 1/6W
R023	1-247-815-00	CARBON	220 5% 1/6W	R206	1-249-459-11	CARBON	12K 5% 1/4W
R024	1-249-433-11	CARBON	22K 5% 1/6W	R207	1-247-857-00	CARBON	12K 5% 1/6W
R025	1-249-425-11	CARBON	4.7K 5% 1/6W	R208	1-249-417-11	CARBON	1K 5% 1/6W
R026	1-247-725-11	CARBON	10K 5% 1/4W	R209	1-247-726-11	CARBON	33K 5% 1/4W
R027	1-249-441-11	CARBON	100K 5% 1/6W	R210	1-247-875-00	CARBON	680 5% 1/6W
R028	1-247-853-00	CARBON	8.2K 5% 1/6W	R211	1-247-717-11	CARBON	2.2K 5% 1/4W
				R212	1-247-839-00	CARBON	2.2K 5% 1/6W
				R214	1-247-803-00	CARBON	68 5% 1/6W

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R215	1-249-441-11	CARBON	100K 5% 1/6W	R503	1-247-823-00	CARBON	470 5% 1/6W
R216	1-249-441-11	CARBON	100K 5% 1/6W	R504	1-247-819-00	CARBON	330 5% 1/6W
R217	1-247-823-00	CARBON	470 5% 1/6W	R505	1-247-705-11	CARBON	270 5% 1/6W
R218	1-247-785-00	CARBON	12 5% 1/6W	R506	1-249-417-11	CARBON	1K 5% 1/6W
R231	1-247-815-00	CARBON	220 5% 1/6W	R507	1-247-713-11	CARBON	1K 5% 1/6W
R232	1-247-883-00	CARBON	150K 5% 1/6W	R508	1-249-422-11	CARBON	2.7K 5% 1/6W
R233	1-249-425-11	CARBON	4.7K 5% 1/6W	R509	1-247-845-00	CARBON	3.9K 5% 1/6W
R234	1-249-429-11	CARBON	10K 5% 1/6W	R510	1-247-873-00	CARBON	56K 5% 1/6W
R240	1-247-851-00	CARBON	6.8K 5% 1/6W	R511	1-215-461-00	METAL	47K 1% 1/6W
R241	1-249-417-11	CARBON	1K 5% 1/6W	R512	1-249-417-11	CARBON	1K 5% 1/6W
R242	1-249-417-11	CARBON	1K 5% 1/6W	R513	1-215-475-00	METAL	180K 1% 1/6W
R243	1-249-441-11	CARBON	100K 5% 1/6W	R514	1-215-455-00	METAL	27K 1% 1/6W
R244	1-249-417-11	CARBON	1K 5% 1/6W	R515	1-249-429-11	CARBON	10K 5% 1/6W
R245	1-247-815-00	CARBON	220 5% 1/6W	R516	1-215-463-00	METAL	56K 1% 1/6W
R246	1-249-417-11	CARBON	1K 5% 1/6W	R517	1-249-429-11	CARBON	10K 5% 1/6W
R247	1-249-414-11	CARBON	560 5% 1/6W	R518	1-247-849-00	CARBON	5.6K 5% 1/6W
R248	1-249-414-11	CARBON	560 5% 1/6W	R519	1-249-415-11	CARBON	680 5% 1/6W
R249	1-247-819-00	CARBON	330 5% 1/6W	R520	1-249-414-11	CARBON	560 5% 1/6W
R250	1-247-851-00	CARBON	6.8K 5% 1/6W	R521	1-247-726-11	CARBON	33K 5% 1/4W
R251	1-249-417-11	CARBON	1K 5% 1/6W	R522	1-247-819-00	CARBON	330 5% 1/6W
R252	1-247-826-00	CARBON	620 5% 1/6W	R523	1-247-819-00	CARBON	330 5% 1/6W
R253	1-249-441-11	CARBON	100K 5% 1/6W	R524	1-214-768-00	METAL	43K 1% 1/4W
R254	1-249-423-11	CARBON	3.3K 5% 1/6W	R525	1-249-427-11	CARBON	6.8K 5% 1/6W
R255	1-247-706-11	CARBON	330 5% 1/4W	R526	1-249-393-11	CARBON	10 5% 1/6W
R256	1-249-405-11	CARBON	100 5% 1/6W	R527	1-216-434-11	METAL OXIDE	1.8K 5% 1W F
R257	1-247-633-00	CARBON	1.2K 5% 1/6W	R528	1-216-464-11	METAL OXIDE	18K 5% 2W F
R258	1-247-819-00	CARBON	330 5% 1/6W	R529	1-247-719-11	CARBON	3.3K 5% 1/4W
R259	1-247-819-00	CARBON	330 5% 1/6W	R530	1-247-177-00	CARBON	82K 5% 1/4W
R260	1-247-851-00	CARBON	6.8K 5% 1/6W	R531	1-249-440-11	CARBON	82K 5% 1/6W
R261	1-249-417-11	CARBON	1K 5% 1/6W	R532	1-249-459-11	CARBON	12K 5% 1/4W
R262	1-247-823-00	CARBON	470 5% 1/6W	R533	1-249-434-11	CARBON	27K 5% 1/6W
R263	1-249-469-11	CARBON	100K 5% 1/4W	R534	1-249-417-11	CARBON	1K 5% 1/6W
R264	1-249-432-11	CARBON	18K 5% 1/6W	R535	1-249-417-11	CARBON	1K 5% 1/6W
R265	1-247-819-00	CARBON	330 5% 1/6W	R536	1-247-849-00	CARBON	5.6K 5% 1/6W
R266	1-247-833-00	CARBON	1.2K 5% 1/6W	R537	1-216-425-11	CARBON	4.7K 5% 1/6W
R267	1-247-833-00	CARBON	1.2K 5% 1/6W	R538	1-249-417-11	CARBON	1K 5% 1/6W
R268	1-249-417-11	CARBON	1K 5% 1/6W	R539	1-249-429-11	CARBON	10K 5% 1/6W
R270	1-247-851-00	CARBON	6.8K 5% 1/6W	R540	1-247-706-11	CARBON	330 5% 1/4W
R291	1-249-435-11	CARBON	33K 5% 1/6W	R541	1-247-883-00	CARBON	150K 5% 1/6W
R292	1-249-429-11	CARBON	10K 5% 1/6W	R542	1-249-441-11	CARBON	100K 5% 1/6W
R293	1-247-725-11	CARBON	10K 5% 1/4W	R543	1-249-752-11	CARBON	3.9K 5% 1/4W
R294	1-249-393-11	CARBON	10 5% 1/6W F	R544	1-215-411-00	METAL	390 1% 1/6W
R295	1-249-417-11	CARBON	1K 5% 1/6W	R545	1-215-411-00	METAL	390 1% 1/6W
R296	1-247-726-11	CARBON	33K 5% 1/4W	R549	1-249-469-11	CARBON	100K 5% 1/4W
R297	1-247-691-00	CARBON	330K 5% 1/6W	R551	1-247-833-00	CARBON	1.2K 5% 1/6W
R298	1-249-429-11	CARBON	10K 5% 1/6W	R552	1-247-688-11	CARBON	10 5% 1/4W F
R299	1-247-823-00	CARBON	470 5% 1/6W	R553	1-217-399-00	FUSIBLE	100 5% 1/4W F
R295	1-249-433-11	CARBON	22K 5% 1/6W	R554	1-249-399-11	CARBON	33 5% 1/6W F
R296	1-249-433-11	CARBON	22K 5% 1/6W	R555	1-216-433-00	METAL OXIDE	1.2K 5% 1W F
R297	1-249-433-11	CARBON	22K 5% 1/6W	R556	1-247-700-11	CARBON	100 5% 1/4W F
R500	1-215-683-11	METAL OXIDE	33 5% 2W F	R557	1-216-350-11	METAL OXIDE	1.2 5% 1W F
R501	1-249-405-11	CARBON	100 5% 1/6W	R558	1-216-350-11	METAL OXIDE	1.2 5% 1W F
R502	1-249-405-11	CARBON	100 5% 1/6W	R559	1-249-432-11	CARBON	18K 5% 1/6W

**A**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark				
R561	L-216-434-00	METAL OXIDE	820 5%	1W	F	R852	1-217-383-00	FUSIBLE	4.7 5%	1/4W	F
R562	L-216-354-11	METAL OXIDE	2.7 5%	1W	F	R863	1-247-149-00	CARBON	5.6K 5%	1/4W	F
R563	L-247-769-00	CARBON	2.7 5%	1/6W	R866	1-207-678-00	WIREWOUND	10 10%	5W	F	
R564	L-247-845-00	CARBON	3.9K 5%	1/6W	R887	1-207-678-00	WIREWOUND	10 10%	5W	F	
R565	L-249-425-11	CARBON	4.7K 5%	1/6W	R889	1-247-177-00	CARBON	82K 5%	1/4W		
R566	L-215-857-00	METAL OXIDE	470 5%	1W	F	R892	1-247-717-11	CARBON	2.2K 5%	1/4W	
R567	L-216-431-11	METAL OXIDE	560 5%	1W	F	R893	1-216-420-00	METAL OXIDE	180 5%	1W	F
R584	L-249-465-11	CARBON	47K 5%	1/4W							
R585	L-246-531-00	CARBON	270K 5%	1/4W							
R585	L-247-903-00	CARBON	1M 5%	1/6W							
R587	L-214-784-00	METAL	2000 1%	1/4W	RV201	1-228-723-00	RES, ADJ, CERAMIC	CARBON 4.7K			
R588	L-249-423-11	CARBON	3.3K 5%	1/6W	RV501	1-224-251-XX	RES, ADJ, METAL	GIAZE 4.7K			
R590	L-249-437-11	CARBON	47K 5%	1/6W	RV502	1-230-633-51	RES, ADJ, CARBON	47K			
R801	L-247-109-00	CARBON	120 5%	1/4W	RV503	1-230-624-51	RES, ADJ, CARBON	220			
R802	L-249-465-11	CARBON	47K 5%	1/4W	RV551	1-230-630-11	RES, ADJ, CARBON	10K			
R803	L-247-839-00	CARBON	2.2K 5%	1/6W	RV801	1-228-720-00	RES, ADJ, CERAMIC	CARBON 1K			
R804	L-249-425-11	CARBON	4.7K 5%	1/6W							
R805	L-249-420-11	CARBON	1.8K 5%	1/6W							
R806	L-216-431-11	METAL OXIDE	560 5%	1W							
R808	L-249-405-11	CARBON	100 5%	1/6W							
R809	L-215-871-11	METAL OXIDE	2.2K 5%	1W	F						
R810	L-215-880-00	METAL OXIDE	10 5%	2W	F						
R811	L-215-862-11	METAL OXIDE	68 5%	1W	F						
R812	L-247-851-00	CARBON	6.8K 5%	1/6W							
R813	L-247-13-11	CARBON	1K 5%	1/4W							
R814	L-249-429-11	CARBON	10K 5%	1/6W	T202	1-404-465-00	COIL, VIF (MOLD TYPE)				
R815	L-247-829-00	CARBON	820 5%	1/6W	T203	1-404-489-00	COIL				
R816	L-247-710-11	CARBON	560 5%	1/4W	T801	1-437-090-00	HDT				
R817	L-249-405-11	CARBON	100 5%	1/6W							
R818	L-215-460-00	METAL	43K 1%	1/6W							
R819	L-247-803-00	CARBON	68 5%	1/6W	TH551	1-800-945-00	THERMISTOR S-10K				
R821	L-207-612-00	WIREWOUND	0.1 10%	2W	F						
R831	L-215-445-00	METAL	10K 1%	1/6W							
R832	L-215-445-00	METAL	10K 1%	1/6W							
R834	L-215-445-00	METAL	10K 1%	1/6W							
R835	L-249-469-11	CARBON	100K 5%	1/4W							
R836	L-215-443-00	METAL	8.2K 1%	1/6W							
R837	L-215-456-00	METAL	75K 1%	1/6W							
R838	L-214-910-80	METAL	75K 1%	1/2W							
R839	L-215-876-00	METAL OXIDE	15K 5%	1W	F						
R840	L-249-460-11	CARBON	15K 5%	1/4W							
R841	L-247-887-00	CARBON	220K 5%	1/6W							
R842	L-249-429-11	CARBON	10K 5%	1/6W							
R843	L-247-775-11	CARBON	10K 5%	1/4W							
R851	L-249-382-11	CARBON	1.2 5%	1/6W	C1	*1-506-371-00	2P PLUG (1)				
R852	L-215-869-11	METAL OXIDE	1K 5%	1W	F	C2	*1-508-686-00	6P PLUG			
R853	L-249-377-11	CARBON	0.47 5%	1/6W	C3	*1-565-059-11	PIN, CONNECTOR 7P				
R854	L-249-377-11	CARBON	0.47 5%	1/6W	C4	*1-566-054-11	PIN, CONNECTOR 2P				
R855	L-216-445-11	METAL OXIDE	12 5%	2W	C5	*1-566-054-11	PIN, CONNECTOR 2P				
R857	L-202-822-00	SOLID	2.2K 10%	1/2W							
R858	L-247-149-00	CARBON	5.6K 5%	1/4W							
R859	L-215-461-00	METAL	47K 1%	1/6W	CAPACITOR						
R860	L-249-382-11	CARBON	1.2 5%	1/6W	C701	1-162-115-00	CERAMIC	330PF	10%	2KV	
R861	L-217-383-11	FUSIBL	4.2 5%	1/4W	C702	1-129-179-00	FILM	0.022MF	20%	1KV	
R862	L-217-383-11	FUSIBL	4.2 5%	1/4W	C703	1-123-619-00	ELECT	4.7MF	20%	5KV	

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

- The components identified by **☒** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

C

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark	
C704	1-123-946-00	ELECT	4.7MF	20%	250V	Q754	8-729-103-43	TRANSISTOR 2SB734
C705	1-129-714-00	FiLM	0.01MF	10%	630V	Q755	8-729-177-43	TRANSISTOR 2SD774
C708	1-102-111-00	CERAMIC	270PF	10%	50V	Q756	8-729-177-43	TRANSISTOR 2SD774
C709	1-102-109-00	CERAMIC	180PF	10%	50V	Q757	8-729-178-54	TRANSISTOR 2SC2785
C710	1-102-110-00	CERAMIC	220PF	10%	50V			
C711	1-102-125-00	CERAMIC	0.0047MF	10%	50V			
C712	1-123-356-00	ELECT	10MF	20%	25V	R701	1-202-846-00	SOLID
C713	1-102-074-00	CERAMIC	0.001MF	10%	50V	R702	1-202-720-00	SOLID
C714	1-102-074-00	CERAMIC	0.001MF	10%	50V	R703	1-202-844-00	SOLID
C715	1-102-074-00	CERAMIC	0.001MF	10%	50V	R704	1-202-836-00	SOLID
C755	1-102-980-00	CERAMIC	270PF	5%	50V	R705	1-202-846-00	SOLID
C756	1-106-196-00	MYLAR	0.01MF	10%	100V			
C757	1-106-196-00	MYLAR	0.0018MF	10%	100V	R706	1-216-345-11	METAL OXIDE
C753	1-108-634-81	MYLAR	0.047MF	10%	100V	R707	1-202-842-91	SOLID
C754	1-123-356-00	ELECT	10MF	20%	25V	R708	1-202-842-00	SOLID
C755	1-102-980-00	CERAMIC	270PF	5%	50V	R709	1-202-842-00	SOLID
C756	1-106-196-00	MYLAR	0.01MF	10%	100V	R710	1-202-549-00	SOLID
C757	1-106-196-00	MYLAR	0.01MF	10%	100V	R711	1-202-549-00	SOLID
C758	1-106-196-00	MYLAR	0.01MF	10%	100V	R712	1-202-543-92	SOLID
C760	1-106-196-00	MYLAR	0.01MF	10%	100V	R713	1-202-824-00	SOLID
C761	1-105-220-00	MYLAR	0.1MF	10%	100V	R714	1-247-700-11	CARBON
C762	1-106-196-00	MYLAR	0.01MF	10%	100V	R715	1-247-706-11	CARBON
C763	1-124-907-00	ELECT	10MF	20%	50V	R716	1-215-416-00	METAL
C764	1-123-321-00	ELECT	220MF	20%	16V	R717	1-249-425-11	CARBON
C765	1-124-122-11	ELECT	100MF	20%	50V	R718	1-247-791-00	CARBON
C766	1-124-903-00	ELECT	1MF	20%	50V	R719	1-249-422-11	CARBON
						R720	1-249-414-11	CARBON
						R721	1-215-924-00	METAL OXIDE
D701	8-719-911-19	DIODE	1SS119			R723	1-247-819-00	CARBON
D702	8-719-911-19	DIODE	1SS119			R724	1-249-414-11	CARBON
D703	8-719-911-19	DIODE	1SS119			R725	1-249-425-11	CARBON
D704	8-719-911-19	DIODE	1SS119			R726	1-247-791-00	CARBON
D705	8-719-911-19	DIODE	1SS119			R727	1-249-422-11	CARBON
D706	8-719-911-19	DIODE	1SS119			R728	1-249-414-11	CARBON
						R730	1-215-924-00	METAL OXIDE
						R731	1-247-924-11	CARBON
						R732	1-247-821-00	CARBON
						R733	1-249-425-11	CARBON
						R734	1-247-857-00	CARBON
						R735	1-247-791-00	CARBON
						R737	1-215-924-00	METAL OXIDE
						R751	1-247-815-00	CARBON
						R752	1-247-815-00	CARBON
						R753	1-247-833-00	CARBON
						R754	1-247-829-00	CARBON
						R755	1-215-871-11	METAL OXIDE
						R756	1-249-414-11	CARBON
						R757	1-247-849-00	CARBON
						R758	1-249-435-11	CARBON
						R759	1-249-393-11	CARBON
						R760	1-247-819-00	CARBON
						R761	1-247-815-00	CARBON
						R762	1-247-815-00	CARBON
						R764	1-249-417-11	CARBON
						R765	1-249-399-11	CARBON

The components identified by shading and mark **F** are critical for safety. Replace only with part number specified.

C DF D

Ref. No.	Part No.	Description				Remark	Ref. No.	Part No.	Description				Remark					
R766	1-249-435-11	CARBON	23K	5%	1/6W		C1512	1-106-196-00	MYLAR	0.01MF	10%	100V						
R767	1-249-429-11	CARBON	10K	5%	1/6W		C1513	1-123-332-00	ELECT	4.7MF	20%	15V						
R768	1-249-435-11	CARBON	3.3K	5%	1/6W		C1514	1-124-908-11	ELECT	22MF	20%	50V						
R769	1-249-417-11	CARBON	1K	5%	1/6W		C1515	1-124-908-11	ELECT	22MF	20%	50V						
R771	1-249-337-11	CARBON	47K	5%	1/6W		C1516	1-124-122-11	ELECT	100MF	20%	50V						
R772	1-249-397-11	CARBON	22	5%	1/6W	F	C1517	1-124-905-11	ELECT	3.3MF	20%	50V						
R773	1-247-801-00	CARBON	56	5%	1/6W	F	C1518	1-106-192-00	MYLAR	0.0056MF	10%	100V						
R776	1-249-389-11	CARBON	4.7	5%	1/6W	F	C1519	1-108-632-01	MYLAR	0.033MF	10%	100V						
<u> VARIABLE RESISTOR</u>																		
RV701	1-225-157-00	RES, ADJ, METAL GLAZE 1M					C1522	1-108-630-01	MYLAR	0.022MF	10%	100V						
RV702	1-230-104-00	RES, ADJ, CARBON 4.7K					C1523	1-124-907-00	ELECT	10MF	20%	50V						
RV703	1-230-104-00	RES, ADJ, CARBON 4.7K					C1524	1-106-190-00	MYLAR	0.0056MF	10%	100V						
RV704	1-230-104-00	RES, ADJ, CARBON 4.7K					C1525	1-129-701-00	FILM	0.01MF	5%	100V						
RV705	1-230-104-00	RES, ADJ, CARBON 4.7K					C1526	1-102-125-00	CERAMIC	0.0047MF	10%	50V						
RV706	1-230-104-00	RES, ADJ, CARBON 4.7K					C1527	1-106-196-00	MYLAR	0.01MF	10%	100V						
RV707	1-230-104-00	RES, ADJ, CARBON 4.7K					<u> DIODE</u>											
*****																		
*1-620-095-11 DF BOARD							D1501	8-719-911-19	DIODE 1SS119									
*****							D1502	8-719-911-19	DIODE 1SS119									
<u> CAPACITOR</u>																		
C880	1-108-634-01	MYLAR	0.047MF	10%	100V		IC1501	8-759-905-39	IC TDA1082									
<u> COIL</u>																		
1-881-A-1-459-074-11 COIL, DUST CORE 6.8MM(HOC)							L1501	1-408-245-00	MICRO INDUCTOR 22MH									
*****							L1502	1-407-509-00	MICRO INDUCTOR 27MH									
*****							L1503	1-408-242-00	MICRO INDUCTOR 10MH									
*****							L1504	1-408-247-00	MICRO INDUCTOR 33MH									
<u> RESISTOR</u>																		
R888-A-1-202-922-51 SOLID 2.2K 1/2W							<u> TRANSISTOR</u>											
*****							Q1501	8-729-178-54	TRANSISTOR 2SC2785									
*****							Q1502	8-729-178-54	TRANSISTOR 2SC2785									
*****							Q1503	8-729-103-43	TRANSISTOR 2SB734									
*****							Q1504	8-729-195-82	TRANSISTOR 2SC2958									
<u> RESISTOR</u>																		
*A-1340-864-A D BOARD, COMPLETE							R1501	1-247-799-00	CARBON	82	5%	1/6W						
*****							R1502	1-247-145-00	CARBON	3.9K	5%	1/4W						
*****							R1503	1-249-415-11	CARBON	680	5%	1/6W						
*****							R1504	1-249-432-11	CARBON	18K	5%	1/6W						
*****							R1505	1-249-423-11	CARBON	3.3K	5%	1/6W						
<u> CAPACITOR</u>																		
C1501	1-108-630-91	MYLAR	0.022MF	10%	100V		R1506	1-249-432-11	CARBON	18K	5%	1/6W						
C1503	1-106-196-00	MYLAR	0.01MF	10%	100V		R1508	1-249-432-11	CARBON	18K	5%	1/6W						
C1504	1-124-903-00	ELECT	1MF	20%	50V		R1509	1-246-453-00	CARBON	150	5%	1/4W						
C1505	1-106-190-00	MYLAR	0.0056MF	10%	100V		R1510	1-249-417-11	CARBON	1K	5%	1/6W						
C1506	1-124-905-11	ELECT	3.3MF	20%	50V		R1511	1-246-535-00	CARBON	390K	5%	1/4W						
C1507	1-124-908-11	ELECT	22MF	20%	50V		R1512	1-247-893-00	CARBON	390K	5%	1/6W						
C1508	1-124-902-00	ELECT	0.47MF	20%	50V		R1513	1-247-829-00	CARBON	820	5%	1/6W						
C1509	1-124-122-11	ELECT	10MF	20%	50V		R1514	1-247-815-00	CARBON	220	5%	1/6W						
C1510	1-124-903-00	ELECT	1MF	20%	50V		R1515	1-246-535-00	CARBON	390K	5%	1/4W						
C1511	1-124-903-00	ELECT	1MF	20%	50V		R1516	1-249-429-11	CARBON	10K	5%	1/6W						

The components identified by shading and mark  are critical for safety. Replace only with part number specified.



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R1517	1-247-719-11	CARBON	3.3K 5%	1/6W		SWITCH	
R1518	1-249-465-11	CARBON	47K 5%	1/4W	S001	1-552-765-00	SWITCH, KEYBOARD
R1519	1-249-419-11	CARBON	1.5K 5%	1/6W	S002	1-552-765-00	SWITCH, KEYBOARD
R1520	1-247-839-00	CARBON	2.2K 5%	1/6W	S003	1-552-765-00	SWITCH, KEYBOARD
R1521	1-249-435-11	CARBON	33K 5%	1/6W	S004	1-552-765-00	SWITCH, KEYBOARD
R1522	1-249-435-11	CARBON	33K 5%	1/6W	S005	1-552-765-00	SWITCH, KEYBOARD
R1523	1-247-853-00	CARBON	8.2K 5%	1/6W		SWITCH	
R1524	1-247-811-00	CARBON	150 5%	1/6W	S006	1-554-804-11	SWITCH, PUSH (1 KEY)
R1525	1-249-429-11	CARBON	10K 5%	1/6W	S007	1-554-804-11	SWITCH, PUSH (1 KEY)
R1526	1-247-725-11	CARBON	10K 5%	1/4W	S008	1-554-804-11	SWITCH, PUSH (1 KEY)
R1527	1-247-787-00	CARBON	15 5%	1/6W	S009	1-554-804-11	SWITCH, PUSH (1 KEY)
R1528	1-249-414-11	CARBON	560 5%	1/6W	S010	1-554-804-11	SWITCH, PUSH (1 KEY)
R1529	1-249-434-11	CARBON	27K 5%	1/6W	S011	1-554-804-11	SWITCH, PUSH (1 KEY)
R1530	1-216-451-11	METAL OXIDE	120 5%	2W F	S012	1-554-804-11	SWITCH, PUSH (1 KEY)
R1531	1-215-865-11	METAL OXIDE	220 5%	1W F	S013	1-554-804-11	SWITCH, PUSH (1 KEY)
R1532	1-247-809-00	CARBON	120 5%	1/6W		*****	
R1533	1-247-242-00	CARBON	1.2K 5%	1/2W		*1-619-602-11	H2 BOARD
R1534	1-247-803-00	CARBON	68 5%	1/6W		*****	
R1535	1-216-423-11	METAL OXIDE	27 5%	1W F		*4-362-612-00	HOLDER (B), LED
R1536	1-247-893-00	CARBON	390K 5%	1/6W		*4-382-130-01	COVER, RAY CATCHER
<u>VARIABLE RESISTOR</u>							
RV1501	1-230-625-11	RES, ADJ, CARBON	330			DIODE	
RV1502	1-230-634-51	RES, ADJ, CARBON	100K				
RV1503	1-230-634-51	RES, ADJ, CARBON	100K		D01	8-719-921-55	DIODE SLP1558
RV1504	1-226-771-00	RES, ADJ, METAL GLAZE	1K		D02	8-719-921-55	DIODE SLP1558
RV1505	1-230-628-11	RES, ADJ, CARBON	2.2K		D03	8-719-928-49	DIODE SLP4558-01
RV1506	1-230-634-51	RES, ADJ, CARBON	100K		D04	8-719-928-49	DIODE SLP4558-01
RV1507	1-230-630-11	RES, ADJ, CARBON	10K		D05	8-719-955-32	DIODE PG5531KX
RV1508	1-230-627-11	RES, ADJ, CARBON	1K		D06	8-719-928-49	DIODE SLP4558-01
RV1509	1-230-271-00	RES, ADJ, CARBON	4.7K			IC	
RV1510	1-230-628-11	RES, ADJ, CARBON	2.2K		IC01	8-741-138-70	IC BX-1387
RV1511	1-230-625-11	RES, ADJ, CARBON	330			RESISTOR	
<u> THERMISTOR</u>							
TH1501	1-806-110-00	THERMISTOR			R01	1-249-405-11	CARBON 100 5% 1/6W
TH1502	1-800-625-00	THERMISTOR			R02	1-249-405-11	CARBON 100 5% 1/6W
<u> *1-619-601-11 HI BOARD</u>							
*****							
*1-566-057-11 PIN, CONNECTOR 5P							
*1-566-057-11 PIN, CONNECTOR 5P							
*1-566-062-11 PIN, CONNECTOR 10P							
*4-380-621-01 HOLDER (B), LED							
<u> DIODE</u>							
D007	8-719-812-41	DIODE TLR124			C951	1-124-907-00	ELECT 10MF 20% 50V
<u> VARIABLE RESISTOR</u>							
RV001	1-237-386-11	RES, VAR, CARBON	10K/10K/10K		C952	1-124-907-00	ELECT 10MF 20% 50V
RV951	1-237-387-11	RES, VAR, CARBON	10K/10K/10K		C953	1-124-445-00	ELECT 100MF 20% 16V
<u> CAPACITOR</u>							
					C954	1-108-622-91	MYLAR 0.0047MF 10% 100V
					C955	1-136-169-00	FL: M 0.22MF 5% 50V
					C956	1-108-622-91	MYLAR 0.0047MF 10% 100V
					C957	1-136-169-00	FL: M 0.22MF 5% 50V
					C958	1-123-332-00	ELECT 47MF 20% 16V
					C959	1-124-907-00	ELECT 10MF 20% 50V
					C960	1-124-907-00	ELECT 10MF 20% 50V

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K2

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark				
C961	1-123-321-00	ELECT	220MF	20K	15V	R960	1-249-429-11	CARBON	10K	5%	1/6W
C962	1-124-903-00	ELECT	1MF	20K	50V	R961	1-247-427-11	CARBON	10K	5%	1/4W
C963	1-124-903-00	ELECT	1MF	20K	50V	R962	1-249-429-11	CARBON	10K	5%	1/6W
C964	1-124-907-00	ELECT	10MF	20K	50V	R964	1-247-721-11	CARBON	4.7K	5%	1/4W
C965	1-124-903-00	ELECT	1MF	20K	50V	R965	1-249-435-11	CARBON	33K	5%	1/6W
C966	1-108-843-91	MYLAR	0.033MF	10K	50V	R966	1-216-455-11	METAL OXIDE	560	5%	2W F
C967	1-124-903-00	ELECT	2.2MF	20K	50V	R967	1-247-891-00	CARBON	330K	5%	1/6W
C968	1-124-903-00	ELECT	1MF	20K	50V	R968	1-247-895-00	CARBON	470K	5%	1/6W
C969	1-124-903-00	ELECT	1MF	20K	50V	R969	1-249-419-11	CARBON	1.5K	5%	1/6W
C970	1-123-332-00	ELECT	47MF	20K	16V	R970	1-247-135-00	CARBON	1.5K	5%	1/4W
C971	1-123-332-00	ELECT	47MF	20K	16V	R971	1-247-903-00	CARBON	1M	5%	1/6W
C972	1-124-907-00	ELECT	10MF	20K	50V	R972	1-249-429-11	CARBON	10K	5%	1/6W
C973	1-136-166-00	FILM	0.12MF	5%	50V	R973	1-247-725-11	CARBON	10K	5%	1/4W
C974	1-136-166-00	FILM	0.12MF	5%	50V	R974	1-249-437-11	CARBON	47K	5%	1/6W
C975	1-124-901-00	ELECT	1000MF	20K	35V	R975	1-247-163-00	CARBON	22K	5%	1/4W
C976	1-124-901-00	ELECT	1000MF	20K	35V	R976	1-249-429-11	CARBON	10K	5%	1/6W
C977	1-124-618-11	ELECT	220MF	20K	35V	R977	1-246-409-00	CARBON	2.2	5%	1/4W
C978	1-124-121-00	ELECT	100MF	20K	35V	R978	1-246-409-00	CARBON	2.2	5%	1/4W
C979	1-123-321-00	ELECT	220MF	20K	16V	R979	1-247-713-11	CARBON	1K	5%	1/4W
						R980	1-247-713-11	CARBON	1K	5%	1/4W
<u>DIODE</u>											
D951	8-719-109-92	DIODE	RD6.2ES-B1			R981	1-249-433-11	CARBON	22K	5%	1/6W
D952	8-719-110-33	DIODE	RD12ES-B3			R982	1-249-417-11	CARBON	1K	5%	1/6W
D953	8-719-911-19	DIODE	1SS119			R983	1-249-429-11	CARBON	10K	5%	1/6W
D954	8-719-000-12	DIODE	MC931			R984	1-249-405-11	CARBON	100	5%	1/6W F
D955	8-719-000-12	DIODE	MC931			R985	1-249-417-11	CARBON	1K	5%	1/6W
D956	8-719-911-19	DIODE	1SS119			R986	1-247-713-11	CARBON	1K	5%	1/4W
9557	8-719-911-19	DIODE	1SS119			R987	1-247-713-11	CARBON	1K	5%	1/4W
9558	8-719-911-19	DIODE	1SS119			R988	1-249-425-11	CARBON	4.7K	5%	1/6W
<u>IC</u>											
IC951	8-759-276-30	IC	TA7630P			RV952	1-228-996-00	RES, ADJ, CARBON	47K		
IC952	8-759-205-84	IC	TA7273P								
<u>COIL</u>											
L951	1-408-429-00	MICRO INDUCTOR	470UH			Y1	*1-556-056-11	PIN, CONNECTOR 4P			
						Y2	*1-556-054-11	PIN, CONNECTOR 2P			
						Y3	*1-556-055-11	PIN, CONNECTOR 3P			
						Y4	*1-556-057-11	PIN, CONNECTOR 5P			
						Y5	*1-556-054-11	PIN, CONNECTOR 2P			
<u>TRANSISTOR</u>											
Q951	8-729-178-54	TRANSISTOR	2SC2785								
Q952	8-729-117-54	TRANSISTOR	2SA1175								
Q953	8-729-117-54	TRANSISTOR	2SA1175								
Q954	8-729-178-54	TRANSISTOR	2SC2785								
<u>RESISTOR</u>											
R951	1-249-417-11	CARBON	1K	5%	1/6W						
R952	1-247-713-11	CARBON	1K	5%	1/4W						
R953	1-249-441-11	CARBON	100K	5%	1/6W						
R954	1-249-441-11	CARBON	10K	5%	1/6W						
R955	1-249-419-11	CARBON	1.5K	5%	1/6W						
R956	1-249-419-11	CARBON	1.5K	5%	1/6W						
R957	1-247-833-00	CARBON	1.2K	5%	1/6W						
R958	1-249-429-11	CARBON	10K	5%	1/6W						
R959	1-249-429-11	CARBON	10K	5%	1/6W						
<u>CAPACITOR</u>											
C106	1-102-114-00	CERAMIC				C111	1-102-114-00	CERAMIC	470PF	10%	50V
<u>JACK</u>											
J102	1-563-547-11	JACK BLOCK	PIN (BNC)	3P							

K2

K1

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark		
<u>RESISTOR</u>									
R105	1-249-425-11	CARBON	4.7K 5%	1/6W	C1201	1-124-233-00	ELECT	10MF	
R106	1-249-425-11	CARBON	4.7K 5%	1/6W	C1202	1-108-622-91	MYLAR	0.0047MF	
R133	1-247-804-00	CARBON	75 5%	1/6W	C1203	1-124-233-00	ELECT	10MF	
				C1204	1-124-233-00	ELECT	10MF		
				C1205	1-108-630-91	MYLAR	0.022MF		
*****									
*A-1394-113-A K1 BOARD, COMPLETE				C1206	1-106-196-00	MYLAR	0.01MF		
*****				C1207	1-124-250-00	ELECT	1.3MF		
				C1208	1-130-309-00	FILM	0.033MF		
				C1209	1-124-233-00	ELECT	10MF		
				C1211	1-124-259-00	ELECT	4.7MF		
*1-564-354-00 PLUG, CONNECTOR (2.5MM) 3P				C1213	1-124-233-00	ELECT	10MF		
*1-564-443-11 PLUG, CONNECTOR (2.5MM) 7P				C1214	1-130-279-00	FILM	0.0018MF		
*1-564-441-11 PLUG, CONNECTOR (2.5MM) 10P				C1215	1-124-255-00	ELECT	1MF		
*1-566-056-11 PIN, CONNECTOR 4P				C1216	1-124-259-00	ELECT	4.7MF		
*1-566-057-11 PIN, CONNECTOR 5P				C1217	1-124-233-00	ELECT	10MF		
<u>CAPACITOR</u>									
C101	1-124-259-00	ELECT	4.7MF	20%	50V	C1218	1-124-233-00	ELECT	10MF
C102	1-124-259-00	ELECT	4.7MF	20%	50V	C1219	1-124-475-11	ELECT	470MF
C103	1-124-259-00	ELECT	4.7MF	20%	50V	C1220	1-124-475-11	ELECT	470MF
C104	1-102-114-00	CERAMIC	470PF	10%	50V	C1221	1-108-622-91	MYLAR	0.0047MF
C105	1-102-114-00	CERAMIC	470PF	10%	50V	C1222	1-124-233-00	ELECT	10MF
C107	1-124-233-00	ELECT	.10MF	20%	16V	C1223	1-124-233-00	ELECT	10MF
C108	1-124-235-91	ELECT	33MF	20%	16V	C1225	1-124-255-00	ELECT	10MF
C109	1-102-114-00	CERAMIC	470PF	10%	50V	C1226	1-124-255-00	ELECT	1MF
C110	1-102-114-00	CERAMIC	470PF	10%	50V	C1227	1-136-165-00	FILM	0.1MF
C112	1-124-259-00	ELECT	4.7MF	20%	50V	C1228	1-108-587-00	MYLAR	0.022MF
C113	1-124-259-00	ELECT	4.7MF	20%	50V	C1229	1-124-645-11	ELECT	10MF
C114	1-124-259-00	ELECT	4.7MF	20%	50V	C1230	1-106-180-00	MYLAR	0.0022MF
C115	1-124-233-00	ELECT	10MF	20%	16V	C1231	1-124-233-00	ELECT	10MF
C116	1-124-235-91	ELECT	33MF	20%	16V	C1232	1-123-321-00	ELECT	220MF
C117	1-124-233-00	ELECT	10MF	20%	16V	C1233	1-131-368-00	TANTALUM	3.3MF
C118	1-124-235-91	ELECT	33MF	20%	16V	C1234	1-124-258-00	ELECT	3.3MF
C119	1-124-236-00	ELECT	47MF	20%	16V	C1235	1-131-371-00	TANTALUM	10MF
C120	1-124-235-91	ELECT	33MF	20%	16V	C1236	1-131-361-00	TANTALUM	2.2MF
C121	1-124-236-00	ELECT	47MF	20%	16V	C1237	1-124-234-00	ELECT	22MF
C122	1-124-235-91	ELECT	33MF	20%	16V	<u>CONNECTOR</u>			
C123	1-124-235-91	ELECT	33MF	20%	16V	CN101	1-537-030-11	TERMINAL, PUSH	
C130	1-124-235-91	ELECT	33MF	20%	16V	<u>DIODE</u>			
C131	1-124-235-91	ELECT	33MF	20%	16V	D100	8-719-911-19	DIODE 1SS119	
C132	1-124-235-91	ELECT	33MF	20%	16V	D101	8-719-911-19	DIODE 1SS119	
C133	1-124-235-91	ELECT	33MF	20%	16V	D102	8-719-911-19	DIODE 1SS119	
C134	1-124-233-00	ELECT	10MF	20%	16V	D103	8-719-911-19	DIODE 1SS119	
C135	1-102-959-00	CERAMIC	22PF	5%	50V	D104	8-719-911-19	DIODE 1SS119	
C136	1-101-004-00	CERAMIC	0.01MF		50V	D105	8-719-911-19	DIODE 1SS119	
C137	1-124-236-00	ELECT	47MF	20%	16V	D106	8-719-000-12	DIODE MC931	
C139	1-124-119-00	ELECT	330MF	20%	16V	D107	8-719-000-12	DIODE MC931	
C141	1-101-003-00	CERAMIC	0.0047MF		50V	D108	8-719-000-12	DIODE MC931	
C142	1-101-003-00	CERAMIC	0.0047MF		50V	D1201	8-719-911-19	DIODE 1SS119	
C143	1-101-003-00	CERAMIC	0.0047MF		50V	D1202	8-719-911-19	DIODE 1SS119	
C144	1-101-003-00	CERAMIC	0.0047MF		50V				
C156	1-124-233-00	ELECT	10MF	20%	16V				
C998	1-136-173-00	FILM	0.47MF	5%	50V				
C999	1-136-173-00	FILM	0.47MF	5%	50V				

K1

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
		<u>IC</u>				<u>IC</u>	
IC101	8-759-340-52	IC HD14052BP		R131	1-247-804-00	CARBON	75 5% 1/6W
IC102	8-759-340-52	IC HD14052BP		R132	1-247-804-00	CARBON	75 5% 1/6W
IC1201	8-752-011-20	IC CX20112		R134	1-247-859-00	CARBON	15K 5% 1/6W
IC1202	8-752-030-26	IC CKA1011P		R135	1-247-859-00	CARBON	15K 5% 1/6W
		<u>JACK</u>		R136	1-247-859-00	CARBON	15K 5% 1/6W
J101	L-563-548-11	JACK BLOCK, PIN (BNC) 9P		R137	1-247-859-00	CARBON	15K 5% 1/6W
		<u>COIL</u>		R138	1-247-851-00	CARBON	6.8K 5% 1/6W
J1201	1-408-242-00	MICRO INDUCTOR 10MMH		R139	1-247-851-00	CARBON	6.8K 5% 1/6W
		<u>TRANSISTOR</u>		R140	1-247-851-00	CARBON	6.8K 5% 1/6W
Q100	8-729-178-54	TRANSISTOR 2SC2785		R141	1-247-851-00	CARBON	6.8K 5% 1/6W
Q101	8-729-178-54	TRANSISTOR 2SC2785		R142	1-249-417-11	CARBON	1K 5% 1/6W
Q102	8-729-178-54	TRANSISTOR 2SC2785		R143	1-249-417-11	CARBON	1K 5% 1/6W
Q103	8-729-178-54	TRANSISTOR 2SC2785		R144	1-249-417-11	CARBON	1K 5% 1/6W
Q104	8-729-178-54	TRANSISTOR 2SC2785		R145	1-249-417-11	CARBON	1K 5% 1/6W
Q105	8-729-117-54	TRANSISTOR 2SA1175		R146	1-249-435-11	CARBON	33K 5% 1/6W
Q106	8-729-117-54	TRANSISTOR 2SA1175		R147	1-249-435-11	CARBON	33K 5% 1/6W
Q107	8-729-117-54	TRANSISTOR 2SA1175		R148	1-249-435-11	CARBON	33K 5% 1/6W
Q108	8-729-117-54	TRANSISTOR 2SA1175		R149	1-249-435-11	CARBON	33K 5% 1/6W
Q109	8-729-178-54	TRANSISTOR 2SC2785		R150	1-249-420-11	CARBON	1.8K 5% 1/6W
Q110	8-729-117-54	TRANSISTOR 2SA1175		R151	1-247-895-00	CARBON	470K 5% 1/6W
Q1203	8-729-117-54	TRANSISTOR 2SA1175		R152	1-249-414-11	CARBON	560 5% 1/6W
Q1204	8-729-178-54	TRANSISTOR 2SC2785		R153	1-247-833-00	CARBON	1.2K 5% 1/6W
		<u>RESISTOR</u>		R154	1-247-719-11	CARBON	3.3K 5% 1/4W
R101	1-249-425-11	CARBON 4.7K 5% 1/6W		R155	1-249-420-11	CARBON	1.8K 5% 1/6W
R102	1-249-425-11	CARBON 4.7K 5% 1/6W		R156	1-249-429-11	CARBON	10K 5% 1/6W
R103	1-249-425-11	CARBON 4.7K 5% 1/6W		R157	1-249-423-11	CARBON	3.3K 5% 1/6W
R104	1-249-425-11	CARBON 4.7K 5% 1/6W		R158	1-249-419-11	CARBON	1.5K 5% 1/6W
R107	1-247-587-00	CARBON 220K 5% 1/6W		R159	1-249-417-11	CARBON	1K 5% 1/6W
R108	1-247-887-00	CARBON 220K 5% 1/6W		R160	1-249-417-11	CARBON	1K 5% 1/6W
R109	1-247-887-00	CARBON 220K 5% 1/6W		R161	1-249-415-11	CARBON	680 5% 1/6W
R110	1-249-417-11	CARBON 1K 5% 1/6W		R162	1-247-804-00	CARBON	75 5% 1/6W
R111	1-249-417-11	CARBON 1K 5% 1/6W		R165	1-247-859-00	CARBON	15K 5% 1/6W
R112	1-249-417-11	CARBON 1K 5% 1/6W		R166	1-247-875-00	CARBON	68K 5% 1/6W
R113	1-247-713-11	CARBON 1K 5% 1/4W		R167	1-247-859-00	CARBON	15K 5% 1/6W
R114	1-247-859-00	CARBON 15K 5% 1/6W		R168	1-249-417-11	CARBON	1K 5% 1/6W
R115	1-247-875-00	CARBON 68K 5% 1/6W		R169	1-247-817-00	CARBON	270 5% 1/6W
R116	1-247-859-00	CARBON 15K 5% 1/6W		R170	1-247-819-00	CARBON	330 5% 1/6W
R117	1-249-417-11	CARBON 1K 5% 1/6W		R171	1-249-437-11	CARBON	47K 5% 1/6W
R118	1-247-817-00	CARBON 270 5% 1/6W		R17202	1-249-425-11	CARBON	4.7K 5% 1/6W
R119	1-247-819-00	CARBON 330 5% 1/6W		R17203	1-247-823-00	CARBON	470 5% 1/6W
R120	1-249-432-11	CARBON 15K 5% 1/6W		R17204	1-249-417-11	CARBON	1K 5% 1/6W
R121	1-247-887-00	CARBON 220K 5% 1/6W		R17206	1-247-133-00	CARBON	1.2K 5% 1/4W
R122	1-247-887-00	CARBON 220K 5% 1/6W		R17207	1-249-429-11	CARBON	10K 5% 1/6W
R123	1-247-887-00	CARBON 220K 5% 1/6W		R17208	1-249-425-11	CARBON	4.7K 5% 1/6W
R124	1-249-417-11	CARBON 1K 5% 1/6W		R17209	1-249-417-11	CARBON	1K 5% 1/6W
R125	1-249-417-11	CARBON 1K 5% 1/6W		R17210	1-249-417-11	CARBON	1K 5% 1/6W
R126	1-249-417-11	CARBON 1K 5% 1/6W		R17211	1-249-441-11	CARBON	100K 5% 1/6W
R127	1-247-713-11	CARBON 1K 5% 1/4W		R17212	1-215-470-00	METAL	110K 1% 1/6W
				R17213	1-215-470-00	METAL	110K 1% 1/6W
				R17214	1-247-819-00	CARBON	330 5% 1/6W
				R17215	1-249-432-11	CARBON	18K 5% 1/6W
				R17217	1-215-430-00	METAL	2.4K 1% 1/6W
				R17218	1-247-903-00	CARBON	1M 5% 1/6W

K1

## Ref. No. Part No. Description Remark

R1219	1-247-853-00	CARBON	8.2K	5%	1/6W
R1220	1-249-414-11	CARBON	560	5%	1/6W
R1221	1-249-423-11	CARBON	3.3K	5%	1/6W
R1222	1-249-429-11	CARBON	10K	5%	1/6W
R1223	1-247-819-00	CARBON	330	5%	1/6W
R1224	1-247-849-00	CARBON	5.6K	5%	1/6W
R1225	1-247-819-00	CARBON	330	5%	1/6W
R1226	1-247-839-00	CARBON	2.2K	5%	1/6W
R1227	1-249-435-11	CARBON	33K	5%	1/6W
R1228	1-215-467-00	METAL	560K	1%	1/6W
R1229	1-215-449-00	METAL	15K	1%	1/6W
R1230	1-247-839-00	CARBON	2.2K	5%	1/6W

## VARIABLE RESISTOR

RV504	1-228-848-00	RES, VAR, CARBON 10K
RV1201	1-228-728-00	RES, ADJ, CERAMIC CARBON 100K
RV1202	1-228-727-00	RES, ADJ, CERAMIC CARBON 47K
RV1203	1-228-731-00	RES, ADJ, CERAMIC CARBON 470K
RV1204	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K
RV1205	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K
RV1206	1-228-723-00	RES, ADJ, CERAMIC CARBON 4.7K
RV1207	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K
RV1208	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K
RV1209	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K
RV1210	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K

## MISCELLANEOUS

1-205-809-11	RES, CEMENT WIREBOUND 3.9
1-451-728-12	DEFLECTION YOKE (SY-184)
1-452-032-00	MAGNET, 15SK; 10MM Ø
1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø
1-452-146-21	MAGNET, BMC
1-452-391-11	NECK ASSY, CRT (NA305)
1-505-409-00	ADAPTOR, CONVERSION
1-554-817-71	CORD, POWER
1-554-966-12	SWITCH, PUSH (AC POWER)(1-KEY)
1-557-056-00	CABLE, P-P
1-563-204-12	SOCKET, ANTENNA (PAL/SECAM)
1-566-316-11	CONNECTOR, CONVERSION
1-801-1-426-289-11	COIL, DEMAGNETIZATION
3V901A-1-237-280-11	RESISTOR ASSY, HIGH-VOLTAGE
3V902A-1-230-212-11	RESISTOR ASSY, HIGH-VOLTAGE
1851-1-439-332-52	TRANSFORMER ASSY, FL BACK
1901-1-8-736-652-05	CRT (A84JK010X)

## ACCESSORIES AND PACKING MATERIALS

*****	
Part No. Description Remark	
A-1470-745-A COMMANDER ASSY (RM-646)	
1-417-094-00 MIXER, U/V (PAL)	
1-505-409-00 ADAPTOR, CONVERSION	
1-566-316-11 CONNECTOR, CONVERSION	
*4-374-402-01 SHEET, CORRUGATED FIBEROBOARD	
*4-380-432-01 BAG, PROTECTION	
*4-382-117-01 CUSHION (UPPER) (ASSY)	
*4-382-118-01 CUSHION (LOWER) (ASSY)	
4-382-131-01 INDIVIDUAL CARTON	
4-382-132-01 CUSHION (FRONT)	
4-482-282-51 MANUAL, INSTRUCTION	
4-490-241-41 MANUAL, INSTANT INFORMATION	

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

**KV-27VX1P**  
RM-646/SS-X4(PX)

9-963-724-01

**Sony Corporation**

86LG0506-1  
Printed in Japan  
© 1986

# SONY<sup>®</sup> SERVICE MANUAL

PX Model

Chassis No. SCC-A57A-A

March, 1987

No. 1

## CORRECTION

Correct the service manual as shown below.  
File this correction with the service manual.

 : Corrected Portion

### Page 5: 2-1. SAFETY RELATED ADJUSTMENTS

Incorrect	Correct
<p><b>2-1. SAFETY RELATED ADJUSTMENTS</b></p> <p><b> R834 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENT</b></p> <p><i>The following adjustment should always be performed when replacing the following components (marked with  on the schematic diagram).</i></p> <p><i>C825, C831, CB32, C833, CB34, C835, C836, C837, C856, C857, C858, R506, R507, R818, R831, R832, R834, R835, R836, R837, R838, R839, R840, R841, R842, R857, R858, R859, D831, D832, Q831, Q832, Q833, Q834, IC501.</i></p> <ol style="list-style-type: none"> <li><i>Preparation before confirmation.</i> <ol style="list-style-type: none"> <li><i>Turn POWER switch ON, and receive dot signals and set the PICTURE and BRIGHTNESS controls to minimum.</i></li> <li><i>Confirm that the voltage of the protector terminal of H.V.R is <math>15.50 \pm 2.50</math> V dc when the set is operating normally with 120VAC supply.</i></li> </ol> </li> <li><i>Hold-down operation confirmation.</i> <ol style="list-style-type: none"> <li><i>Turn POWER switch ON, and receive entirely white signals and adjust IABL current to <math>1650 \pm 30</math> <math>\mu</math>A with PICTURE and BRIGHTNESS etc. controls.</i></li> <li><i>Apply DC voltage of over 14.80 V gradually to the protector terminal of H.V.R via IT40 from the DC stabilized POWER source. Confirm that the minimum voltage is less than 14.80 V whereby the raster disappears during operation of hold-down circuit.</i></li> <li><i>Note: When the hold-down circuit starts operating switch OFF the POWER of the set immediately.</i></li> <li><i>Turn POWER switch ON, and receive dot signals and adjust IABL current to <math>220 \pm 50</math> <math>\mu</math>A with PICTURE and BRIGHTNESS etc. controls.</i></li> <li><i>Apply DC voltage of over 16.00 V gradually to the protector terminal of H.V.R via IT40 from the DC stabilized POWER source. Confirm that the minimum voltage is less than 16.00 V whereby the raster disappears during operation of hold-down circuit.</i></li> <li><i>Note: When the hold-down circuit starts operating switch OFF the POWER of the set immediately.</i></li> </ol> </li> </ol>	<p><b>2-1. SAFETY RELATED ADJUSTMENTS</b></p> <p><b> R834 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENT</b></p> <p><i>The following adjustment should always be performed when replacing the following components (marked with  on the schematic diagram).</i></p> <p><i>C825, C831, CB32, C833, C834, C835, C836, C837, C856, C857, C858, R506, R507, R818, R831, R832, R834, R835, R836, R837, R838, R839, R840, R841, R842, R857, R858, R859, D831, D832, Q831, Q832, Q833, Q834, IC501.</i></p> <ol style="list-style-type: none"> <li><i>Preparation before confirmation.</i> <ol style="list-style-type: none"> <li><i>Turn POWER switch ON, and receive dot signals and set the PICTURE and BRIGHTNESS controls to minimum.</i></li> <li><i>Confirm that the voltage of the Base of Q831 is <math>15.50 \pm 2.50</math> V dc when the set is operating normally with 120VAC supply.</i></li> </ol> </li> <li><i>Hold-down operation confirmation.</i> <ol style="list-style-type: none"> <li><i>Turn POWER switch ON, and receive entirely white signals and adjust IABL current to <math>1650 \pm 30</math> <math>\mu</math>A with PICTURE and BRIGHTNESS etc. controls.</i></li> <li><i>Apply DC voltage of over 14.80 V gradually to the Base of Q831 via IT40 from the DC stabilized POWER source. Confirm that the minimum voltage is less than 14.80 V whereby the raster disappears during operation of hold-down circuit.</i></li> <li><i>Note: When the hold-down circuit starts operating switch OFF the POWER of the set immediately.</i></li> <li><i>Turn POWER switch ON, and receive dot signals and adjust IABL current to <math>220 \pm 50</math> <math>\mu</math>A with PICTURE and BRIGHTNESS etc. controls.</i></li> <li><i>Apply DC voltage of over 16.00 V gradually to the Base of Q831 via IT40 from the DC stabilized POWER source. Confirm that the minimum voltage is less than 16.00 V whereby the raster disappears during operation of hold-down circuit.</i></li> <li><i>Note: When the hold-down circuit starts operating switch OFF the POWER of the set immediately.</i></li> </ol> </li> </ol>

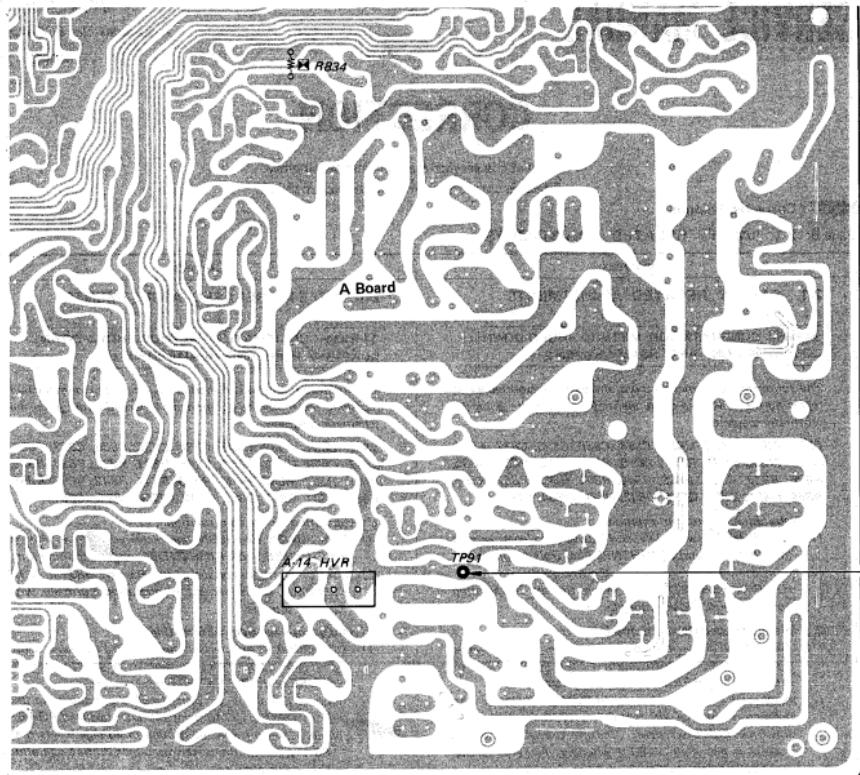


MICROFILM

CTV

Page 5, 6: 2-1. SAFETY RELATED ADJUSTMENTS

Incorrect



Incorrect	Correct
<p><b>CONFIRMATION WHEN REPLACING H.V.R (HIGH VOLTAGE REGISTOR)</b></p> <p>The following adjustments should always be performed with reference to whether an X-ray radiation control circuit is connected or not, when replacing H.V.R (High Voltage Register).</p> <ul style="list-style-type: none"><li>* This check is to be performed when H.V.R only is replaced, and has no relation to the hold-down circuit re-adjustment for replacement of parts marked <input checked="" type="checkbox"/>.</li></ul> <ol style="list-style-type: none"><li>1. When the set is operation normally with 120VAC supply, confirm that the voltage of the protector terminal of H.V.R is <math>15.50 \pm 2.50</math> V dc.</li></ol>	<p><b>CONFIRMATION WHEN REPLACING H.V.R (HIGH VOLTAGE REGISTOR)</b></p> <p>The following adjustments should always be performed with reference to whether an X-ray radiation control circuit is connected or not, when replacing H.V.R (High Voltage Register).</p> <ul style="list-style-type: none"><li>* This check is to be performed when H.V.R only is replaced, and has no relation to the hold-down circuit re-adjustment for replacement of parts marked <input checked="" type="checkbox"/>.</li></ul> <ol style="list-style-type: none"><li>1. When the set is operation normally with 120VAC supply, confirm that the voltage of the Base of Q831 is <math>15.50 \pm 2.50</math> V dc.</li></ol>

Sony Corporation  
TV Group

9-963-724-91

English  
87CG0507-1  
Printed in Japan  
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# SONY TRINITRON® COLOR TV KV-27VX1P/RM-646/SS-X4(PX)

## PX Model

Chassis No. SCC-A57A-A

## VX CHASSIS

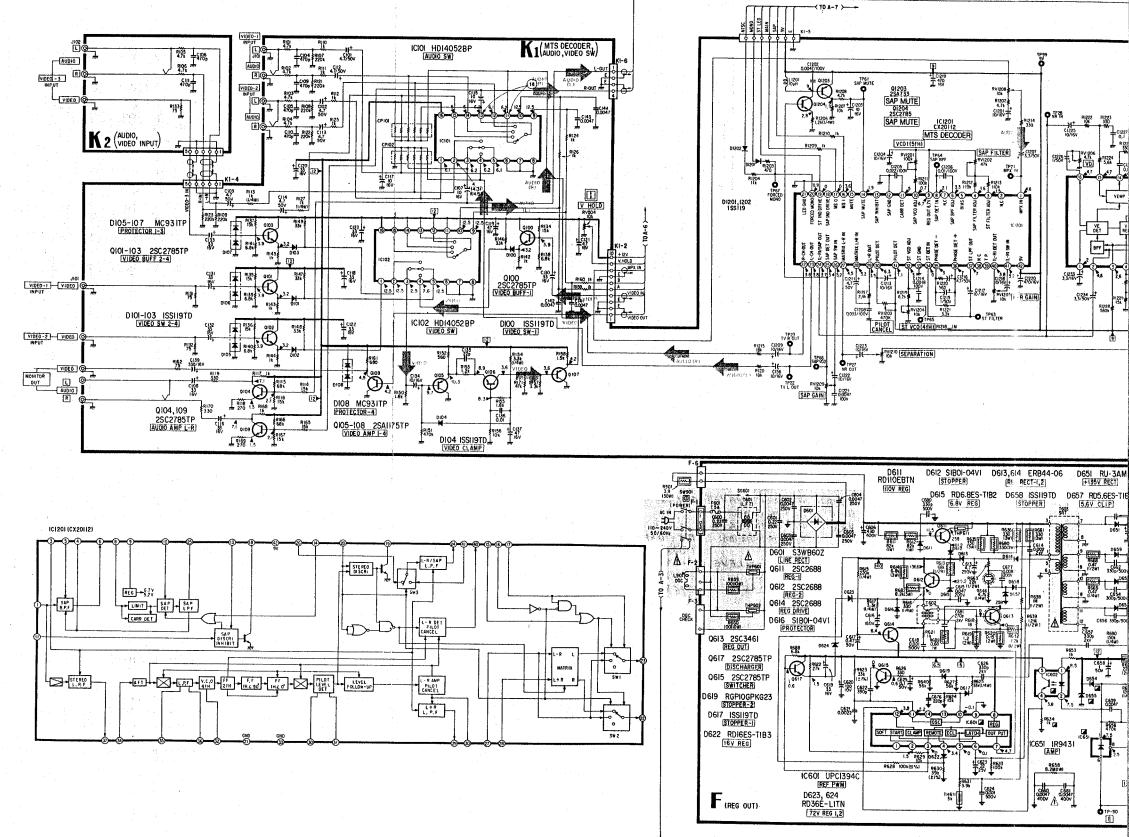
### SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK **K** ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

- All capacitors are in  $\mu$ F unless otherwise noted.  $\mu$ F :  $\mu$ F 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms,  $1/8$  W unless otherwise noted.  $k$  : 1000  $\Omega$ , M : 1000 K $\Omega$
- $\triangle$  : nonadjustable resistor.
- $\square$  : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by **K** in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Select the resistance value according to SAFETY RELATED ADJUSTMENT of the service manual.
- When replacing components identified by **K**, make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by **K** and repeat the adjustment until the specified value is achieved.
- Refer to the service manual for the adjustment of components identified by **K**.
- All voltages are in V.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 M $\Omega$  digital multimeter.
- **K** : adjustment for repair.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- no mark : with PAL color-bar signal received.
- **K** : with NTSC color-bar signal received.
- **K** : Can not be measured for voltage variations.
- **K** : B+ bus.
- **K** : B- bus.

Note: The components identified by shading and mark **K** are critical for safety. Replace only with part number specified.

### SCHEMATIC DIAGRAM



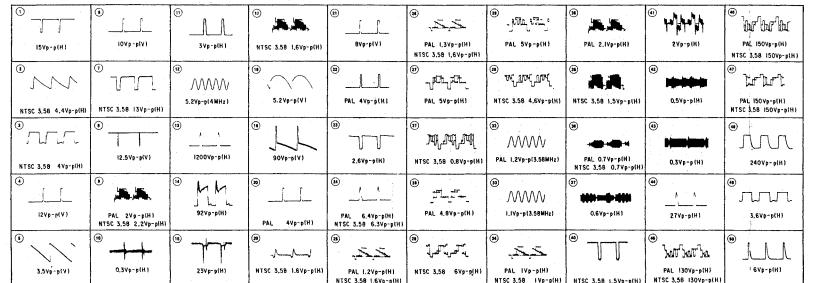
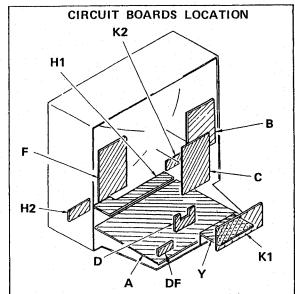
### • Semiconductor Lead Layouts



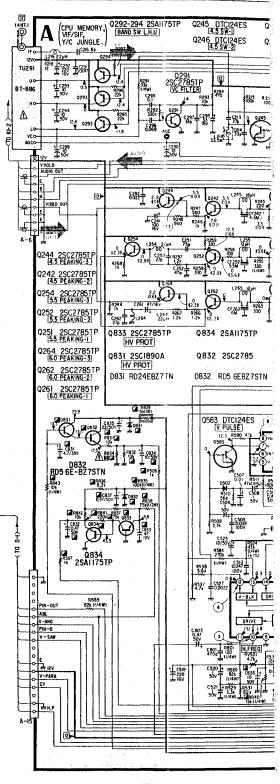
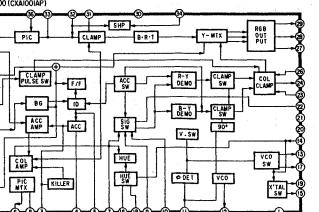
Marking

anode

- Semiconductor Lead Layouts

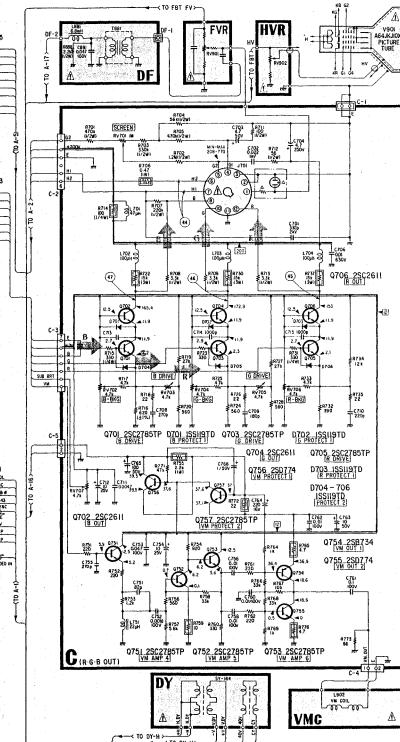
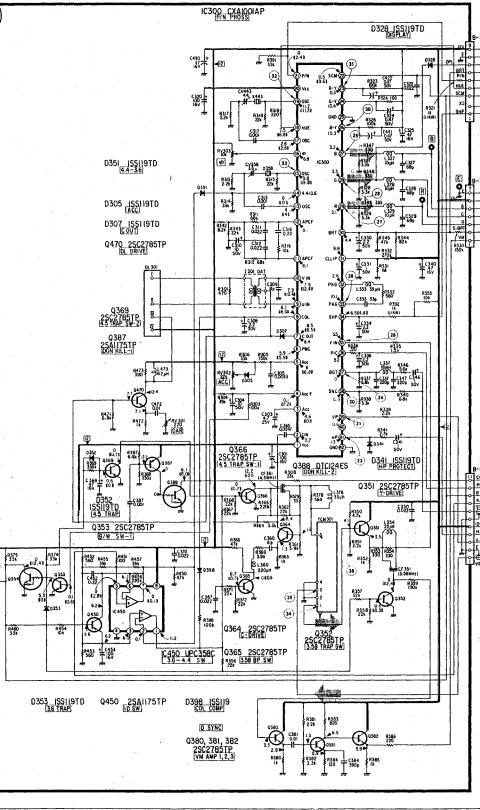
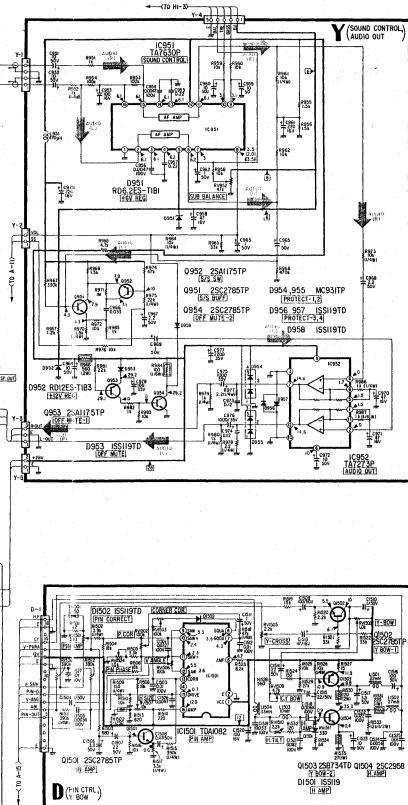


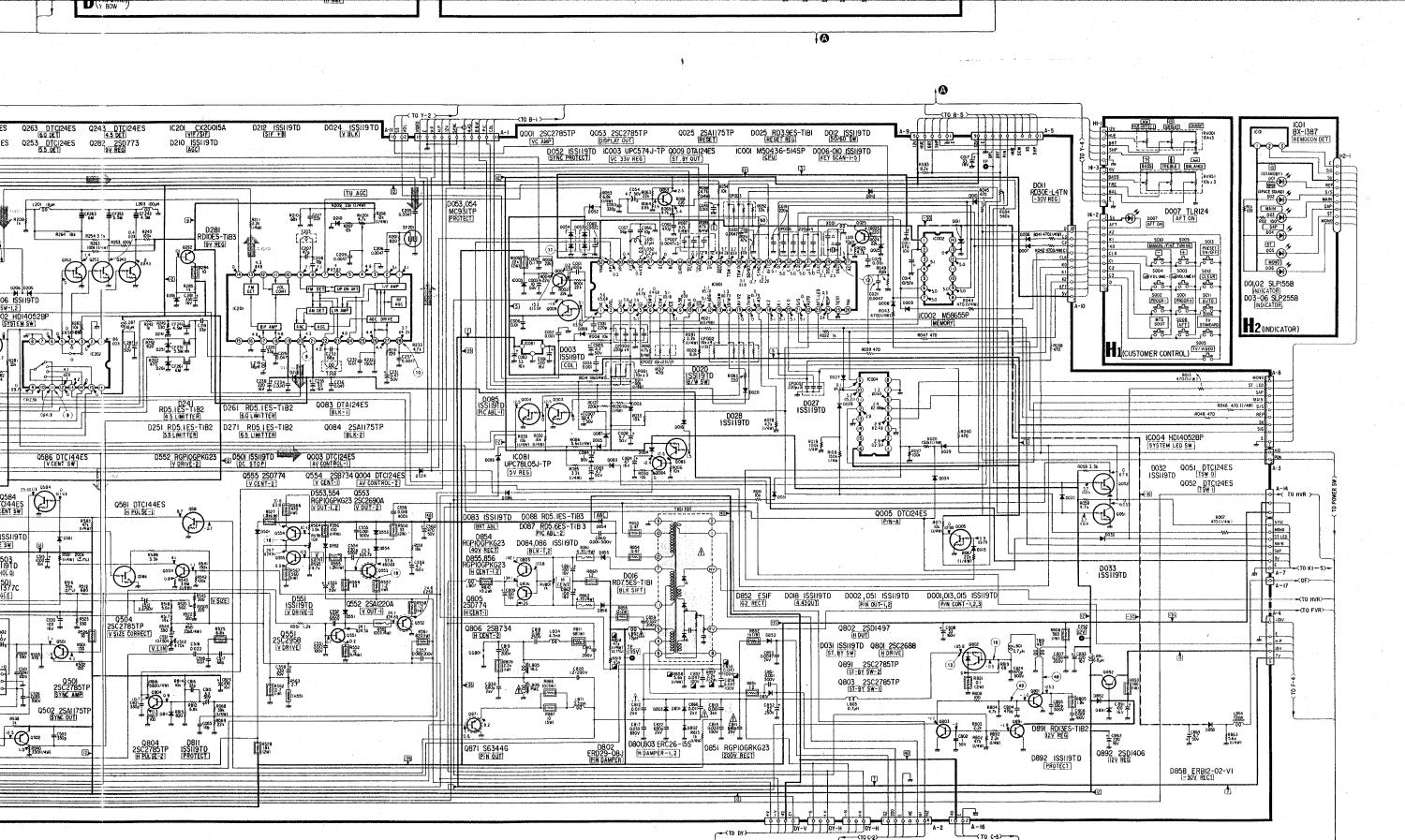
## BOARD









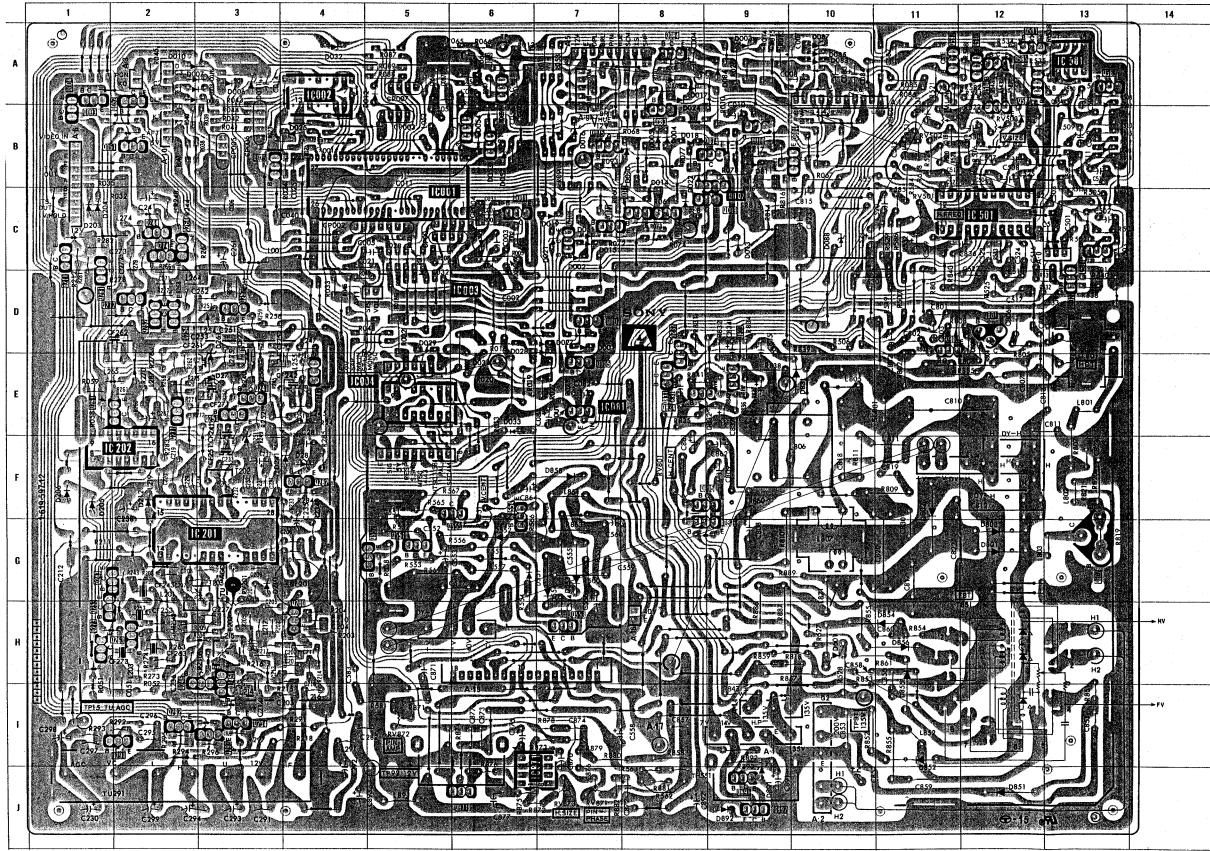


**PRINTED WIRING BOARDS**

Note: All mounting diagrams are viewed from conductor side.

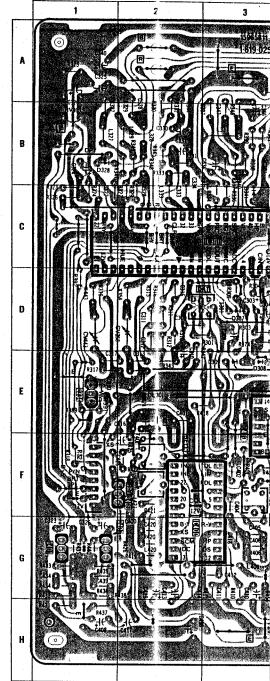
**A**

[CPU MEMORY, VIF/SIF,  
Y/C JUNGLE]



**B**

[Y CHROMA, NTSC 3.58, 4.43 SW]



**TU AGC** RV201 = G-3

1. Tune in an off-air signal.
2. Adjust RV201 so that snow-noise and cross-modulation just disappear from the picture.

**H. FREQ** RV501 = C-11

1. Receive NTSC signal.
2. Connect an electrolytic capacitor (47 $\mu$ F/16V) between Pin (7) and Pin (9) of IC501.
3. Connect frequency counter across pin (10) of IC501 and ground.

**V. LIN** RV502 = F-11

**V. SIZE** RV503 = B-12

**V. CENT** RV551 = G-6

**ACC ADJUSTMENT** RV302 = B-3

1. Turn in a strong off-air signal.

1. Tune in an off-air signal.  
2. Adjust RV201 so that snow-noise and cross-modulation just disappear from the picture.

1. Receive NTSC signal.  
2. Connect an electrolytic capacitor (47μF/16V) between Pin ① and Pin ⑨ of IC501.  
3. Connect frequency counter across pin ⑩ of IC501 and ground.  
4. Adjust RV501 for 15.734kHz±50Hz on the frequency counter.

1. Tune in an off-air signal.  
2. Adjust RV503, RV502 and RV551 for a best vertical size picture.

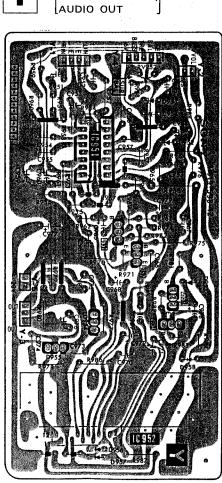
Adjust RV801 for a best vertical size picture.

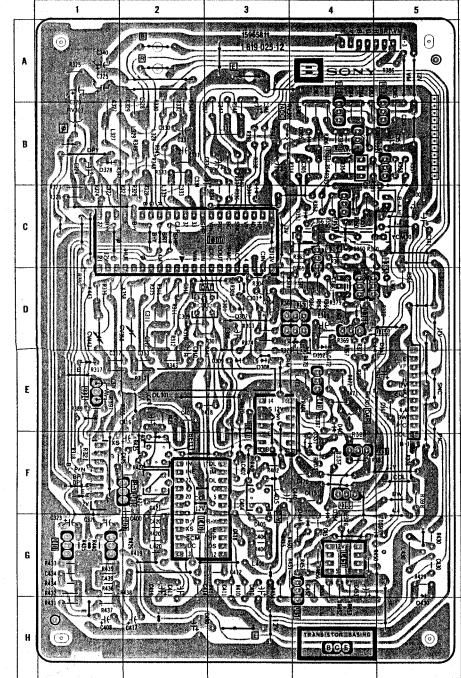
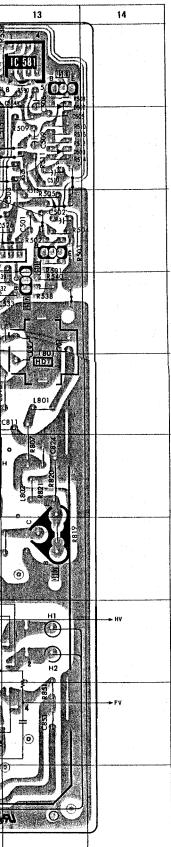
1. Turn in a strong off-air signal.  
2. COLOR control . . . . . NORMAL  
PICTURE control . . . . . NORMAL  
BRIGHTNESS control . . . . . click position  
3. Adjust RV302 for suitable color intensity.  
4. Confirm the color intensity does not change on other channels.

1. Apply McC potential (approx. 5V) to pin ③ of IC300.  
2. Receive a PAL color-bar signal.  
3. Connect an oscilloscope to the test-pin ④.  
4. Adjust RV301 so that ④ anti-PAL right section level is O.  
5. Adjust T301 so that ④ waveform swing stops.  
6. Connect an oscilloscope to the test-pin ④.  
7. Adjust RV303 so that ④ anti-PAL right section level is O.  
8. Perform all of the above steps while tracking.

A

<b>CONNECTOR</b>	C516 H-3	C523 G-2	C892 J-8	D241 G-4	L291 G-13	Q525 G-4	R051 J-3	R259 D-3	R534 A-12	R842 E-13	<b>TRANSISTOR</b>
A0 C-13	C521 H-3	C524 G-5	C893 J-4	D241 G-4	L291 G-13	Q526 G-4	R052 J-3	R259 D-3	R535 A-12	R843 E-13	TH551 J-8
A2 J-10	C520 H-3	C524 G-5	D241 G-4	D261 G-3	L293 G-12	Q527 G-6	R053 A-7	R259 D-3	R536 A-8	R852 I-10	
A3 A-2	C521 H-3	C524 G-5	D241 G-4	D261 G-3	L294 G-11	Q528 G-5	R054 A-6	R260 D-2	R537 B-6	R853 I-10	
A4 1-9	C527 H-3	C556 G-7	D242 F-3	D261 G-3	L295 G-10	Q529 A-11	R055 A-12	R260 D-2	R538 C-7	R854 H-11	
	C529 H-3	C556 G-7	D242 F-3	D261 G-3	L296 G-9	Q530 A-11	R056 A-12	R261 D-2	R539 E-3	R855 H-10	
	C520 H-3	C557 G-5	D243 G-4	D262 G-3	L297 G-8	Q531 A-13	R057 A-12	R262 D-2	R540 F-3	R856 H-9	
A5 E-7	C230 J-1	C557 G-5	D243 G-4	D262 G-3	L298 G-7	Q532 A-13	R058 A-12	R263 D-2	R541 G-3	R857 H-8	
A6 B-5	C232 F-3	C558 G-7	D243 G-4	D263 G-3	L299 G-6	Q533 A-13	R059 A-12	R264 D-2	R542 H-3	R858 H-7	
A7 A-6	C232 F-3	C559 G-7	D243 G-4	D263 G-3	L300 G-5	Q534 A-13	R060 A-12	R265 D-2	R543 I-3	R859 H-6	
A8 F-5	C233 F-2	C560 G-7	D251 H-2	D264 G-7	L301 H-10	Q535 A-13	R061 A-12	R266 D-2	R544 J-3	R860 H-5	
A9 B-7	C234 F-2	C561 G-7	D251 H-2	D264 G-7	L302 H-9	Q536 A-13	R062 A-12	R267 D-2	R545 K-3	R861 H-4	
A10 B-2	C235 G-4	C562 A-11	D252 D-1	D265 B-1	L303 H-8	Q537 A-13	R063 A-12	R268 D-2	R546 L-3	R862 H-3	
A11 D-1	C236 G-4	C563 B-11	D252 D-1	D265 B-1	L304 H-7	Q538 A-13	R064 A-12	R269 D-2	R547 M-3	R863 H-2	
A14 1-9	C239 T-3	C564 B-13	D253 E-3	D266 E-3	L305 H-6	Q539 A-13	R065 A-12	R270 D-2	R548 N-3	R864 H-1	
A15 A-6	C240 T-3	C565 B-13	D253 E-3	D266 E-3	L306 H-5	Q540 A-13	R066 A-12	R271 D-2	R549 O-3	R865 H-0	
A16 H-8	C238 F-2	C565 A-13	D272 H-2	D267 F-7	L307 H-4	Q541 A-13	R067 A-12	R272 D-2	R550 P-3	R866 H-9	
A17 I-8	C241 C-2	C566 A-13	D272 H-2	D267 F-7	L308 H-3	Q542 A-13	R068 A-12	R273 D-2	R551 Q-3	R867 H-8	
	C242 C-2	C567 A-13	D272 H-2	D267 F-7	L309 H-2	Q543 A-13	R069 A-12	R274 D-2	R552 R-3	R868 H-7	
	C252 D-3	C568 A-13	D268 E-3	D268 E-3	L310 H-1	Q544 A-13	R070 A-12	R275 D-2	R553 S-3	R869 H-6	
	C264 E-3	C569 A-13	D268 E-3	D268 E-3	L311 H-0	Q545 A-13	R071 A-12	R276 D-2	R554 T-3	R870 H-5	
						Q546 A-13	R072 A-12	R277 D-2	R555 U-3	R871 H-4	
<b>CAPACITOR</b>	C263 D-2	C905 D-12	D269 D-12	D269 D-12							<b>CRYSTAL</b>
C001 C-6	C261 D-3	C906 D-12	D270 D-12	D270 D-12							X001 B-4
C002 C-6	C262 D-3	C907 D-12	D271 D-12	D271 D-12							
C003 C-6	C262 D-2	C908 F-9	D272 D-2	D272 D-2							
C004 A-8	C263 D-2	C909 F-9	D273 D-2	D273 D-2							
C005 G-3	C273 C-1	C811 F-11	D281 F-11	D281 F-11							
C006 G-3	C274 C-1	C812 F-12	D282 F-12	D282 F-12							
C007 A-9	C275 C-1	C813 F-12	D283 F-12	D283 F-12							
C008 A-9	C291 J-3	C814 F-12	D284 F-12	D284 F-12							
C010 B-3	C292 J-4	C815 G-10	D285 G-10	D285 G-10							
C011 A-3	C293 J-3	C816 G-9	D286 G-9	D286 G-9							
C012 A-3	C295 G-2	C817 G-9	D287 G-9	D287 G-9							
C013 A-3	C296 I-2	C818 G-9	D288 G-9	D288 G-9							
C024 D-4	C297 I-1	C820 G-11	D289 G-11	D289 G-11							
C051 I-2	C298 G-11	C821 G-11	D290 G-11	D290 G-11							
C052 B-6	C501 C-13	C823 G-10	D291 G-10	D291 G-10							
C053 A-5	C502 C-13	C823 J-4	D292 G-10	D292 G-10							
C054 A-6	C503 C-13	C830 G-11	D293 G-11	D293 G-11							
C055 A-5	C504 C-12	C831 G-11	D294 G-11	D294 G-11							
C056 A-5	C505 C-12	C832 G-11	D295 G-11	D295 G-11							
C057 A-5	C506 C-12	C833 G-11	D296 G-11	D296 G-11							
C058 A-5	C507 C-12	C834 G-11	D297 G-11	D297 G-11							
C081 E-6	C508 B-12	C835 E-9	D298 B-12	D298 B-12							
C083 A-10	C509 B-13	C836 E-9	D299 B-12	D299 B-12							
C084 A-10	C513 B-13	C837 E-9	D300 B-12	D300 B-12							
C201 H-3	C516 C-12	C853 I-10	D301 B-12	D301 B-12							
C202 H-4	C516 C-12	C856 I-11	D302 B-12	D302 B-12							
C203 H-3	C516 C-12	C857 I-8	D303 B-12	D303 B-12							
C205 H-3	C518 C-11	C859 H-11	D304 B-12	D304 B-12							
C207 G-2	C519 C-11	C860 H-11	D305 B-12	D305 B-12							
C208 G-3	C521 C-10	C862 F-9	D306 B-12	D306 B-12							
C209 G-3	C521 C-10	C864 T-6	D307 B-12	D307 B-12							
C210 H-4	C524 C-12	C865 A-10	D308 B-12	D308 B-12							
C211 H-4	C524 C-12	C867 A-10	D309 B-12	D309 B-12							
C212 H-4	C524 C-12	C871 H-5	D310 B-12	D310 B-12							
C213 H-3	C525 B-12	C872 J-8	D311 B-12	D311 B-12							
C214 I-3	C526 B-12	C873 J-6	D304 F-1	D304 F-1							
	C526 C-12	C874 J-6	D264 F-1	D264 F-1							
	C526 C-12	C875 J-6	D265 D-1	D265 D-1							
	C531 B-11	C876 J-7	D266 F-1	D266 F-1							
	C532 C-12	C877 J-9	D210 G-3	D210 G-3							
	C532 D-12	C891 J-9	D212 F-2	D212 F-2							





[Y CHROMA, NTSC 3.58, 4.43 SW]

5

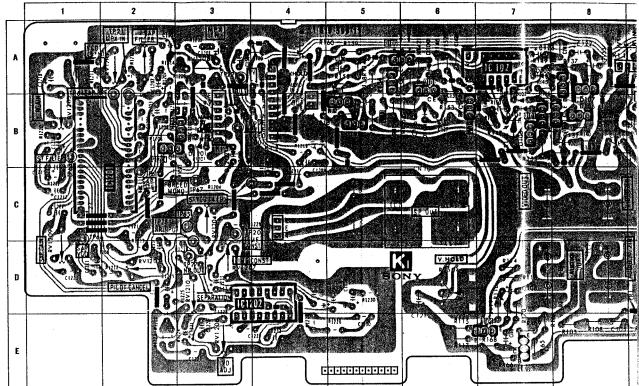
APC ADJUSTMENT IC300 = C-3, CV443 = D-1, CV358 = D-2

1. Apply MCC potential (approx. 5V) to pin (3) of IC300

ACC ADJUSTMENT RV302 = B-3

1. Turn in a strong off-air signal.

K 1  
[AUDIO, VIDEO SW, MTS DECODER]



**SIGNAL SET-UP**

*V<sub>MAIN</sub> : 400 Hz SINEWAVE (0.7 Vp-p)*

*(L-R) 100% modulation*

*V<sub>SUB</sub> : 400 Hz SINEWAVE (1.4 Vp-p)*

*(L-R) 100% modulation*

*V<sub>SAP</sub> : 400 Hz SINEWAVE*

*V<sub>SAP</sub> modulation: FM ±10 kHz deviation (100% MOD)*

*V<sub>SAP</sub> carrier LEVEL: 0.42 Vp-p*

*SAP carrier: 5f<sub>H</sub> (78.67 kHz)*

*V<sub>PILOT</sub> : V<sub>PILOT</sub> LEVEL:*

*Carrier: 15.734 kHz*

**SAP FILTER** RV1202 = A-2

1. Input a 4f<sub>H</sub> (62.936 kHz), 0.42 Vp-p sinewave signal to TP21 (MPX IN).

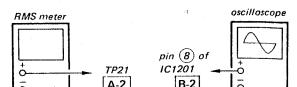
2. Connect an oscilloscope to pin (8) of IC1201.

3. Adjust RV1202 (SAP FILTER) so that level is minimum.

RMS meter

TP21

A-2



**SAP VCO** RV1201 = A-2

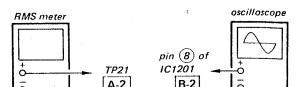
1. Input a 5f<sub>H</sub> (78.67 kHz), 0.42 Vp-p sinewave signal to TP21 (MPX IN).

2. When let the high level (move then 2.5 V dc) to pin (12) of IC1201.

At this point, let the DC current voltage to pin (25) of IC1201 to becomes V<sub>b</sub>.

3. When let the low level (0 V) to pin (14) of IC1201.

At this point, let the DC current voltage to pin (25) of IC1201 to becomes V<sub>a</sub>.



**SAP LEVEL**

RV1209 = D-1

1. Input a V<sub>SAP</sub> of set-up signal to TP28.

2. Set the SAP MODE.

3. Connect the RMS meter to TP28 (SAP INPUT).

4. Adjust RV1209 (SAP GAIN) for 489 ± 5 mVrms.

RMS meter

TP28

C-3



**(L-R) LEVEL**

RV

1. Input a V<sub>SUB</sub> + V<sub>PIL</sub>.

2. Set the MAIN MODE.

3. Connect a RMS meter.

4. Adjust RV1205 (L-R).

RMS meter

TP

C



**STEREO VCO** RV1204 = C-3

1. Connect a 10 μF/16 V capacitor to TP21 (MPX IN) and ground.

2. Connect a frequency counter to TP65.

3. Adjust RV1204 for 62.936 (4f<sub>H</sub>) ± 0.1 kHz.

frequency counter

TP65

C-3

RMS meter

TP21

A-2

B-2

pin (8) of IC1201

oscilloscope

TP

**ACC ADJUSTMENT** **RV302 = B-3**

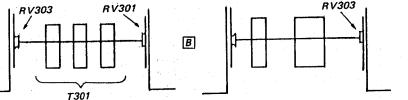
1. Turn in a strong off-air signal.
2. COLOR control . . . . . NORMAL
- PICTURE control . . . . . NORMAL
- BRIGHTNESS control . . . . . click position
3. Adjust **RV302** for suitable color intensity.
4. Confirm the color intensity does not change on other channels.

**APC ADJUSTMENT** **IC300 = C-3, CV443 = D-1, CV358 = D-2**

1. Apply MCC potential (approx. 5V) to pin **(3)** of **IC300**.
2. Receive a PAL color-bar signal.
3. Short-circuit between the pin **(11)** and **(12)** of **IC300** with a jumper wire.
4. Adjust **CV443** to obtain the stable color picture.
5. Receive a NTSC color-bar signal.
6. Adjust **CV358** to obtain the stable color picture.
7. Disconnect the jumper wire.

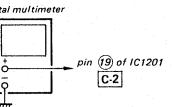
**PAL DEMODULATION ADJUSTMENT** **IC300 = C-3, RV301 = E-4, T301 = D-3, RV303 = B-1**

1. Apply MCC potential (approx. 5V) to pin **(3)** of **IC300**.
2. Receive a PAL color-bar signal.
3. Connect an oscilloscope to the test-pin **[E]**.
4. Adjust **RV301** so that **[E]** anti-PAL right section level is **O**.
5. Adjust **T301** so that **[E]** waveform swing stops.
6. Connect an oscilloscope to the test-pin **[F]**.
7. Adjust **RV303** so that **[F]** anti-PAL right section level is **O**.
8. Perform all of the above steps while tracking.

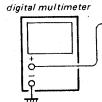
**SAP VCO** **RV1201 = A-2**

1. Input a  $5f_0$  (78.67 kHz), 0.42 Vp-p sinewave signal to **T221 (MPV/IN)**.
2. When the high level (move then 2.5 Vdc) to pin **(14)** of **IC1201**.
- At this point, let the DC current voltage to pin **(25)** of **IC1201** becomes  $V_a$ .
3. When let the low level (0 V) to pin **(14)** of **IC1201**.
- At this point, let the DC current voltage to pin **(25)** of **IC1201** becomes  $V_b$ .
- Adjust **RV1201** (SAP VCO) so that  $V_b$  becomes  $V_a = \pm 0.1$  Vdc.

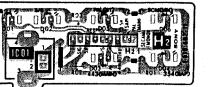
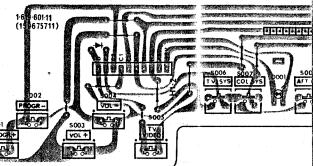
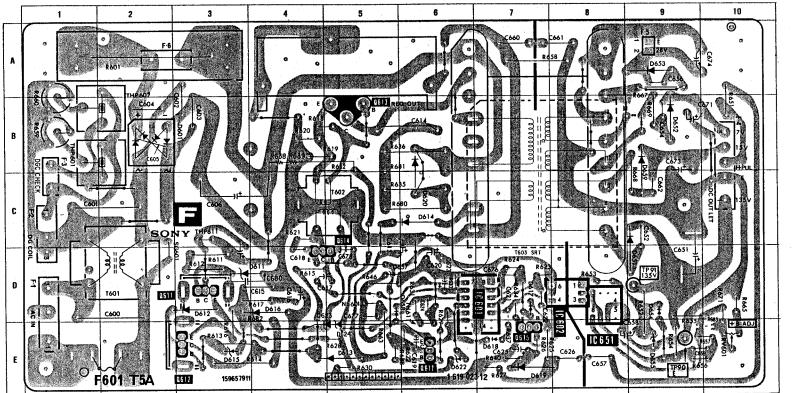
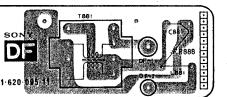
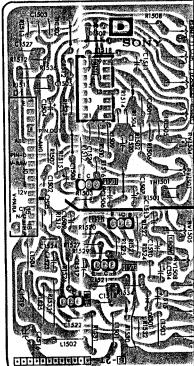
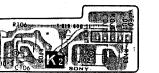
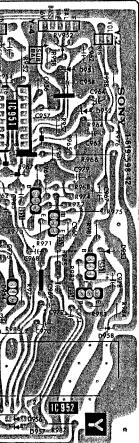
1. Input a  $V_{PILOT}$  of set-up signal to **TP21**.
2. Set the **MAIN MODE**.
3. Adjust the pin **(40)** of **IC1201** (PILOT CANCEL) so that the output it by observing it by using an oscilloscope and viewing it through a filter ( $f_f = 15.734$  kHz).
4. Confirm the voltage pin **(15)** of **IC1201** is 0 Vdc.



the digital multimeter

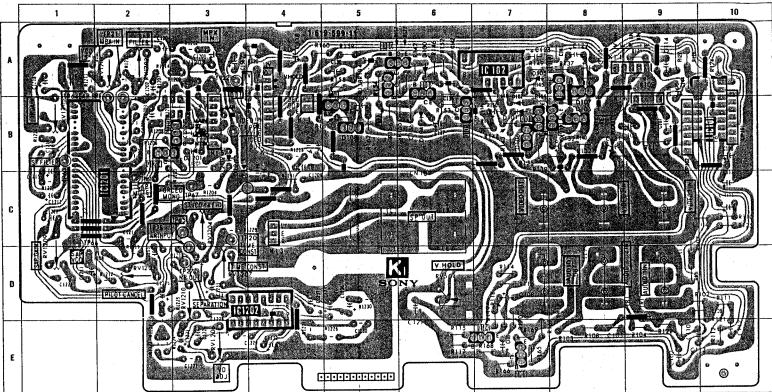


digital multimeter

**H2** [INDICATOR]**H1** [CUSTOMER CONTROL]**F** [REG OUT]**DF** [BLK]**D** [PIN CTRL, Y. BOW]**K2** [AUDIO, VIDEO INPUT]**135V ADJUSTMENT** **RV601 = E-10**Adjust **RV601** for  $135 \pm 0.2$  Vdc on the digital multimeter.ND CONTROL  
IO OUT

K1

(AUDIO, VIDEO SW, MTS DECODER)

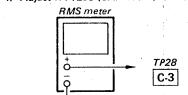


## SIGNAL SET-UP

$V_{MAIN}$ : 400 Hz SINEWAVE (0.7 Vp-p)  
 $(L+R)$ : 100% modulation  
 $V_{SUB}$ : 400 Hz SINEWAVE (1.4 Vp-p)  
 $(L-R)$ : 100% modulation  
 $V_{SAP}$ : 400 Hz SINEWAVE  
 $V_{SAP}$  modulation:  $FM \pm 10$  kHz deviation (100% MOD)  
 $V_{SAP}$  carrier LEVEL: 0.42 Vp-p  
 $V_{SAP}$  carrier: 5f<sub>H</sub> (28.67 kHz)  
 $V_{PILOT}$ :  $V_{PILOT}$  LEVEL: 0.14 Vp-p  
 $Carrier$ : 15.734 kHz

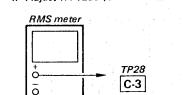
## SAP LEVEL RV1209 = D-1

1. Input a  $V_{SAP}$  of set-up signal to TP21.
2. Set the SAP MODE.
3. Connect an RMS meter to TP28 (NR-INPUT).
4. Adjust RV1209 (SAP GAIN) for  $489 \pm 15$  mVrms.



## (L-R) LEVEL RV1205 = B-1

1. Input a  $V_{SUB} \times V_{PILOT}$  of set-up signal to TP21.
2. Set the MAIN MODE.
3. Connect an RMS meter to TP28 (NR-INPUT).
4. Adjust RV1205 (L-R GAIN) for  $489 \pm 15$  mVrms.

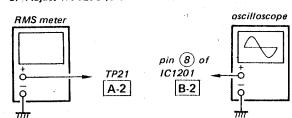


## SEPARATION ADJUSTMENT RV1210 = D-3

1. Input  $V_{MAIN}$  of set-up signal to TP21.
2. Set the MAIN MODE.
3. At this point, read the level to pin 22 of IC1201 and let it to become  $VL1$ . Then confirm that  $VL1$  is  $489 \pm 48$  mVrms.
4. At the same time confirm that the level of to pin 22 of IC1201 is  $VL1 \pm 25$  mVrms.
5. Input  $V_{PILOT}$  of set-up signal to TP21.
6. Input sinewave of 300 Hz ( $-21.0$  dB<sub>1</sub>) to TP28 (NR-IN).
7. At this point, let the level of TP27 (NR-OUT) become  $V1$ .
8. Input sinewave of 8.0 kHz ( $-13.9$  dB<sub>1</sub>) to TP22 (NR-IN).
9. At this point, let the level of TP22 (NR-OUT) become  $V2$ .
10. Adjust RV1210 so that the relationship between  $V1$  and  $V2$  became  $V2 = V1 - (11.3 \pm 0.3)$  dB<sub>1</sub>.

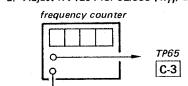
## SAP FILTER RV1202 = A-2

1. Input a  $f_{1f_H}$  (62.936 kHz), 0.42 Vp-p sinewave signal to TP21 (MPX IN).
2. Connect an oscilloscope to pin 8 of IC1201.
3. Adjust RV1202 (SAP FILTER) so that level is minimum.



## STEREO VCO RV1204 = C-3

1. Connect a 10 μF/16 V capacitor to TP21 (MPX IN) and ground.
2. Connect a frequency counter to TP65.
3. Adjust RV1204 for 62.936 ( $f_{1f_H}$ ) ± 0.1 kHz.

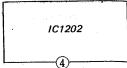


## VARIABLE DE-EMPHASIS RV1206 = E-3

1. Set RV1206 (VDE ADJ) and RV1210 (SEPARATION) to the mechanical center.
2. Input sinewave of 300 Hz ( $-21.0$  dB<sub>1</sub>) to TP28 (NR-IN).
3. At this point, let the level of TP27 (NR-OUT) become  $V1$ .
4. Input sinewave of 8.0 kHz ( $-13.9$  dB<sub>1</sub>) to TP22 (NR-IN).
5. At this point, let the level of TP22 (NR-OUT) become  $V2$ .
6. Adjust RV1206 so that the relationship between  $V1$  and  $V2$  became  $V2 = V1 - (11.3 \pm 0.3)$  dB<sub>1</sub>.

## NOISE REDUCTION RV1207 = D-3

1. Adjust RV1207 to obtain  $837 \pm 15$  mVdc, when connecting the digital multimeter to R1229 as shown Fig. A.



IC300 = C-3, CV443 = D-1, CV358 = D-2

(approx. 5V) to pin ③ of IC300

car signal.

the pin ⑪ and ⑫ of IC300

in the stable color picture.

bar signal.

in the stable color picture.

in wire.

SAP VCO      RV1201 = A-2

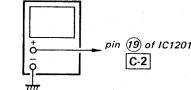
1. Input a  $5f_H$  (78.67 kHz), 0.42 Vp-p sinewave signal to TP21 (MPX IN).
2. When let the high level (more than 2.5 V dc) to pin ⑯ of IC1201.  
At this point, let the DC current voltage to pin ⑮ of IC1201 becomes  $V_A$ .
3. When let the low level (0 V) to pin ⑯ of IC1201.  
At this point, let the DC current voltage to pin ⑮ of IC1201 becomes  $V_B$ .  
Adjust RV1201 (SAP VCO) so that  $V_B$  becomes  $V_B = 1.01 V$  dc.

PILOT CANCEL

RV1203 = D-2

1. Input a Vpp of 0.7 of set-up signal to TP21.
2. Set the MAIN MODE.
3. Adjust RV1203 (PILOT CANCEL) so that the output from pin 40 of IC1201 becomes minimum by observing it by observing it by using an oscilloscope and viewing it through a filter ( $f_H = 15.734$  kHz).
4. Confirm the voltage pin ⑯ of IC1201 is 0 V dc.

digital multimeter



1. Adjust RV1207 to obtain  $837 \pm 15$  mV dc, with connecting the digital multimeter to R1229 as shown Fig. A.

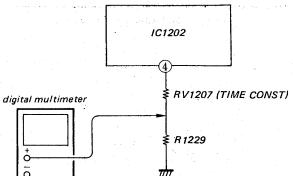
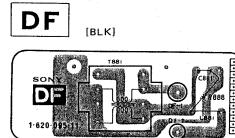
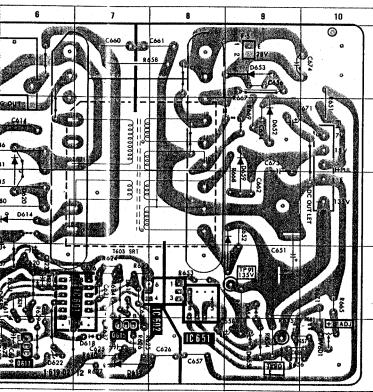
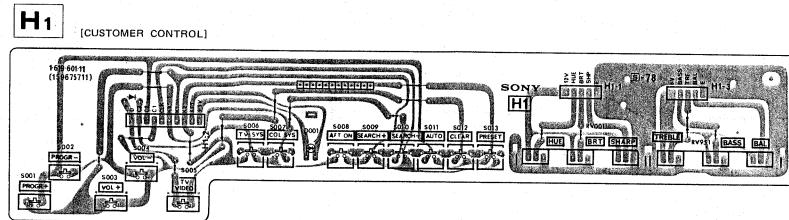
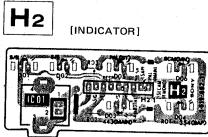
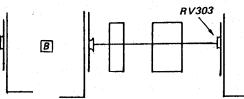
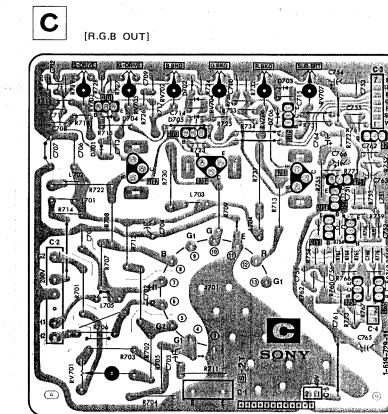
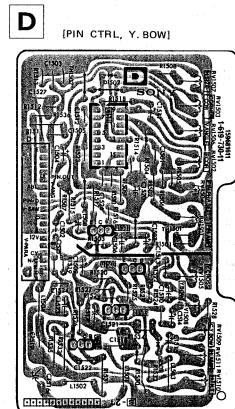


Fig. A

V303 = B-1



K2      [AUDIO, VIDEO INPUT]



Sony Corporation